

Recolonising Africa

Ethiopia witnesses large-scale forcible displacement of villagers in what has become the norm in the past decade in Africa. BY AJOY ASHIRWAD MAHAPRASHASTA

As many as 70,000 indigenous people have been relocated from the Gambella region in a glaring **example of agro-imperialism, which** has seen governments collude with multinational companies and donor agencies.



IN what could be one of the worst cases of its kind, Ethiopia, situated in the Horn of Africa, is witnessing the systematic displacement of at least 70,000 indigenous people from its south-western region of Gambella. An extensively researched report, named "Waiting here for death", released by Human Rights Watch (HRW), an international non-governmental organisation, has documented forcible evictions under the "villagisation" programme of the Ethiopian People's Revolutionary Democratic Front (EPRDF) government. The report becomes important in the context of Ethiopia's long and brutal history of resettling millions of people in

collectivised villages, particularly under the Derg regime, which was in power until 1991. Under the EPRDF, the villagisation concept has been reinvented under the guise of "socio-economic and cultural transformation".

As has been seen in most such cases, the villagisation programme is taking place only in areas where massive land investment is planned or is occurring. The report states that since 2008 Ethiopia has leased out at least 3.6 million hectares of land (as of January 2011), an area the size of the Netherlands, to foreign and domestic investors. An additional 2.1 million ha is available through the federal government's land bank for agricultural investment (as of January 2011). In Gambella, 42 per cent of the total land area is either set aside for leasing or has already been leased out to investors, and many of the areas from where people have been forcibly removed under the villagisation programme are located within these parcels.

According to the Ethiopian government, it is planning to resettle 1.5 million people by 2013 in four regions: Gambella, Afar, Somali and Benishangul-Gumuz. The process is most advanced in Gambella, where relocation started in 2010 and approximately 70,000 people were slated to be moved by the end of 2011. According to the plan of the Gambella regional government, some 45,000 households are to be moved over the three-year life of the plan. Its goals, as stated in the plan, are to provide relocated populations "access to basic socio-economic infrastructures... and to bring socio-economic and cultural transformation of the people". The plan is to provide infrastructure to the new villages and assistance to those being relocated to ensure an appropriate transition to secure livelihoods. The plan also states that the movements are voluntary.

However, the HRW report, which is based on interviews with villagers and on observations made during regular visits to affected villages, claims that these population transfers are being carried out with no meaningful consultation or payment of compensation. Despite government promises to provide ba-

sic resources and infrastructure, the new villages do not have adequate food, agricultural support, and health and education facilities. "Relocations have been marked by threats and assaults, and arbitrary arrest for those who resist the move. The state security forces enforcing the population transfers have been implicated in at least 20 rapes in the past year. Fear and intimidation are widespread among affected populations," it states.

Contrary to the promises, the eviction threatens villagers' access and right to basic services. Because of the lack of basic services, the report says that in the new villages children have not been able to attend schools and women are walking farther to access water, risking harassment and beatings from soldiers. Lack of basic health care facilities has also been a cause of huge concern for the people, who had to leave their traditional livelihood resources in their old villages.

"My father was beaten for refusing to go along [to the new village] with some other elders," a former villager told HRW. He said, "I was born here – my children were born here – I am too old to move, so I will stay." The report further states that he was beaten by soldiers with sticks and the butt of a gun. He had to be taken to hospital, where he succumbed to his injuries. One of the villagers from the Anuak community told HRW: "We want you to be clear that the government brought us here... to die... right here. We want the world to hear that the government brought the Anuak people here to die. They brought us no food, they gave away our land to the foreigners, so we can't even move back. On all sides the land is given away, so we will die here in one place."

The Ethiopian federal government has consistently denied that the villagisation process in Gambella is connected to the leasing of large areas of land for commercial agriculture, but villagers have been told by local government officials that this is an underlying reason for their displacement. According to the report, many former local government officials have also

agreed that the villages are being cleared to accommodate investors.

The first round of forced relocations occurred in October and November last year just as villagers were preparing to harvest their maize crops, thus depriving them of their livelihoods. "The land in the new villages is also often dry and of poor quality. Despite government pledges, the land near the new villages still needs to be cleared while food and agricultural assistance – seeds, fertilizers, tools and training – are not provided. As such, some of the relocated populations have faced hunger and even starvation. Residents may walk back to their old villages where there is still access to water and food, though on returning to their old fields they have found crops destroyed by baboons and rats," the report says.

It adds that the impact of these forcible transfers has been far greater than the normal challenges associated with adjusting to a new location. "Shifting cultivators – farmers who move from one location to another over the years – are being required to plant crops in a single location. Pastoralists are being forced to abandon their cattle-based livelihoods in favour of settled cultivation. In the absence of meaningful infrastructural support, the changes for both populations may have life-threatening consequences. Livelihoods and food security in Gambella are precarious, and the policy is disrupting a delicate balance of survival for many," the report claims.

Ostensibly, the villagisation has the objective of grouping scattered farming communities into small villages of several hundred households each. The official explanation is that the process is meant to promote rational land use; conserve resources; strengthen security; and provide access to clean water, health care and educational infrastructure. Ever since the Derg regime started this process in 1979, these new villages have often been the source of forced labour for government projects, such as road construction, agricultural production, or other infrastructure development.

As a result, Ethiopia saw much violent resistance from organised groups such as the Gambella People's Liberation Movement and the Oromo Liberation Front. The programme was stopped in 1989 after it had reportedly displaced and evicted 13 million people. Now it has been started again by the present government.

The indigenous communities most affected by the evictions are the Nuer, the Anuak, the Highlander Ethiopian, the Mjanger, the Opo and the Komo. What is significant is that these people lead drastically different lifestyles, and any plan to collectivise them can lead to a radical impact on each of these ethnic groups because their identities are intimately tied to the lands and rivers around which they have traditionally lived.

However, as has historically been the case, the government considers these areas to be "unused" or "under-utilised" and therefore available for transfer to industrial agriculture. Metasebia Tadesse, Minister Counselor at the Ethiopian embassy in New Delhi, sums up this perspective in the report: "Most Ethiopians live on highlands; what we are giving on lease is low, barren land. Foreign farmers have to dig metres into the ground to get water. Local farmers don't have the technology to do that. This is completely uninhabited land. There is no evacuation or dislocation of people."

INDIA'S ROLE

What is also significant in the Indian context is that one of the biggest land investors in the Gambella region is the Indian floricultural and agro-business conglomerate Karuturi Global Ltd, based in Karnataka's capital, Bangalore. The company, as the HRW report illustrates, has been responsible for a major chunk of the forced evictions.

According to another report, documented by the Oakland Institute, a United States-based think tank, one of the largest villages in Gambella, called Ilea, has now been leased to Karuturi Global. The Indian conglomerate has leased 10,000 ha in Bako in Oromia province and 100,000 ha of land in



BARRY MALONE/REUTERS

A SENIOR MANAGER of Karuturi Global Ltd, an Indian conglomerate that is investing heavily in Ethiopia, with his workers at its farm in Bako, Oromia province. A 2009 picture. The company has leased 10,000 hectares in Bako and 100,000 ha in Gambella, and has an option for 200,000 ha of additional land in Gambella.

Gambella and has an option for 200,000 ha of additional land in Gambella. It also operates a 435 ha flower farm there.

In regional media reports, Karuturi Global was reportedly told in early 2010 by the regional government that it could relocate the village of Ilea. The company denied any knowledge of such an offer and stated that it had “neither been involved in any way with the Ethiopian government’s policy on villagisation [*sic*] or resettlement of people nor is aware of any such programme of the Ethiopian government in any greater detail”. However, residents of Ilea have now been told by the government that they will be moved in the 2011/2012 year of the villagisation programme.

Karuturi Global claims that the

company’s activities are being misconstrued. A senior company official, speaking on condition of anonymity, told *Frontline*: “KGL believes in hand-ups and not handouts. Since 2004, KGL has provided skills and training to many Ethiopians and currently employs over 5,000 people there, out of whom more than 99 per cent are local residents. We believe human rights are achieved through the dignity obtained by a decent livelihood, and not through the curse of outstretched hands in poverty. Our indigenous employees are curious to know what Human Rights Watch is doing for the degraded human rights of homeless people in the vicinity of its offices in New York and around the world.”

He added: “KGL’s philosophy allows the children of our employees to

attend school and achieve their dreams, to be a future Obama or Oprah in Africa. In our Gambella-Ethiopia project, we employ indigenous people, teaching them valuable skills as well as learning from them. They continue to live in their villages on and near our project sites. KGL’s agricultural project aims in doing well by doing good. We will lower the cost of food for Ethiopians, who pay 25 per cent over the world price for maize, by local production instead of costly imports, and much more for other cereals and oil. Importing food into a fertile country like Ethiopia is as absurd as importing rice into India. KGL’s mission is to break the vicious cycle of hunger and poverty in Africa through local investment, skill building, production and job creation. International funding for

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development is moving towards our approach. We are collaborating with private sector corporations, governments, local communities and donor agencies, to achieve our goals."

According to a 2010 report published in *The Hindu Business Line*, the Ethiopian government is renting out fertile lands for \$1 an acre (one acre is 0.4 hectare) in the form of long-term lease (for 100 years) to foreign corporations. It quoted S. Ayyappan, the then Director General of the Indian Council of Agricultural Research (ICAR), who called upon Indian investors to take advantage of the opportunity. "We can grow pulses there and bring it back to the country," Ayyappan had said to the daily. Meenakshi Ganguly, South Asia director, HRW, told *Frontline*: "As Indian investors expand their operations into other regions, they must be aware that host-government failure to respect

HRW is mounting pressure on donors to stop funding.

rights can also adversely impact their own company identity. To avoid entering into a POSCO-type controversy abroad, Indian companies should ensure that there is no forced displacement or rights violations in the name of development. In Ethiopia, Indian investors should ask the government to follow domestic and international law, consult communities on the villagisation process, ensure that the relocation of people is voluntary and that the rights of people in the new villages are properly protected."

The company's officials have denied any forced evictions in the lands Karuturi has leased. In a response to questions sent by HRW, Karuturi Global, which has similar investments in Kenya, stated that the company "has

not caused in any manner any displacement of human habitation in order to make way forward for the project and is living in peaceful harmony with the people of Gambella". However, HRW's visit to the Karuturi Global lease area in May 2011 found that Anuak maize, sorghum and groundnut crops had been cleared without consent. Some residents moved out as a result. The report states that the federal government has been actively marketing over 800,000 ha of large land parcels in Gambella (32 per cent of the total land area) for agricultural land investment, and many of the areas that have been moved for villagisation are located within these parcels. The regional government also has the authority to grant additional land parcels under 5,000 hectares to investors.

As the Ethiopian government has no plans to stop the villagisation process, HRW is trying to mount pressure on international donors to stop their funding in view of the large-scale human rights violations. HRW has also asked donors to ensure that the Ethiopian government abides by international law and to check the use of international funds so that they are not used against the interests of the people. "The Ethiopian government's villagisation programme is not improving access to services for Gambella's indigenous people but is instead undermining their livelihoods and food security," said Jan Egeland, HRW's Europe director. "The government should suspend the programme until it can ensure that the necessary infrastructure is in place and that people have been properly consulted and compensated for the loss of their land."

Forcible evictions have become the norm in the past decade in Africa in the face of a demanding agro-business market. The Ethiopian example becomes one of the sharpest pointers to the phenomenon of agro-imperialism, which is ever-expanding in Africa and in which governments are, time and again, colluding with multinational companies and international donor agencies against the interests of the citizens of their own countries. □

Gaining ground

Those who believe that the Occupy Wall Street movement came from nowhere and has disappeared just as quickly are wrong on both counts. **BY GARY YOUNGE**

The movement has captured the public and political imagination. It **has shifted the national debate** from debt to inequality and the focus of the problem from victims of the crisis (the poor) to its perpetrators (the financial institutions).

AT the auction of foreclosed homes at Queens Supreme Court in New York, the official carefully explained the process for one person to make an offer

on another person's misery. As the bidding was about to begin on what was once the home of Valencia Williams, around 20 people stood up and started to sing: "Mr Auctioneer / And all the people here / We're asking you to call off the sale right now / We're going to survive but we don't know how." As the clerk ordered them to sit down and be quiet or face arrest, some left but others remained standing, repeating the single laconic verse. They were still singing over the clink of handcuffs and as they were led out of the room. Each time an officer opened the door to take a protester out, the singing from the hallway would seep back in. Finally, when the room had been cleared, the auctioneer put Valencia Williams' home back on the block.

Earlier that morning, at an orientation session, the organisers spelled out their goal to the protesters.



PROTESTERS FROM THE Occupy movement and other community activists putting up signs at a foreclosed home in South Gate, California. A December 2011 photograph.

JONATHAN ALDORN/REUTERS

The aim was to intervene at the moment where the American dream (home ownership, individualism, social mobility) meets the American reality (poverty, corporate greed, vulture capitalism). The protesters hoped not just to disrupt but to stop the process of the auction.

LEGACY OF THE MOVEMENT

The legacy of Occupy Wall Street (OWS) is still in the making. Those who believe it came from nowhere and has disappeared just as quickly are wrong on both counts. Most occupiers were already politically active in a range of campaigns.

What the occupations did was bring them together in one place and refract their disparate messages through the broader lens of inequality. The occupations were less an isolated outpouring of discontent than a decisive, dynamic moment in an evolving process.

Over the past decade in the United States, there has been an itinerant quality to the progressive Left. Activists have sought shelter in the anti-war movement, Howard Dean's primary campaign, gay rights, immigrants' rights or the Barack Obama campaign. Each more powerful and hopeful than the last; each too narrowly focussed and lacking the social or economic base to sustain it. In the occupations, these political vagrants found a home.

The trouble is that while this home offered space for debate and organisation, it was no less precarious than the house of Valencia Williams. Vulnerable to harassment and eviction by the state, it was only a matter of time before they were forced to move.

But while taking over public land to advocate for the public good has had an important practical and symbolic function, it was never the sole or even primary aim of the occupations. The dismantling of many encampments has not prevented the activists who were drawn to it from continuing with the work they were doing before.

Indeed, the occupations have left them re-energised and reinvigorated, with new recruits and a broader tem-

plate within which to work. Accusations that they were too vague, too white and too elitist to engage with the needs of ordinary working people have been contradicted by the many concrete actions they spawned or to which they are connected.

"The occupation was always about values," explained David Premo, who was one of the founding organisers of OWS and involved in the action to block the auction in Queens. "It was about reconfiguring the relationship between people and profit so that people are privileged instead of profit. There's a natural affinity between those values and struggles over housing and land."

The occupation movement's importance does not lie in what it means but in what it does.

The radical Brazilian educator Paulo Freire once asked, "What can we do today so that tomorrow we can do what we are unable to do today?" The occupations have been central to creating new possibilities.

Organising for Occupation (O4O), which executed the protest in Queens, was working on issues of housing justice months before OWS emerged. "The campaigns are separate but there is some crossover," explained Karen Gargamelli of O4O. All those I spoke to in Queens had been involved in OWS in some fashion.

In Nashville, Tennessee, Occupy Our Homes, which came directly out of the Occupy Nashville movement, forced JPMorgan to back off the foreclosure on Helen Bailey, a 78-year-old veteran civil rights activist. Roughly half those involved in the campaign

were housing activists before, explained one activist, and the others came to it through the occupation.

In Portland, Oregon, We Are Oregon has been working against foreclosures for some time and is now concentrating on persuading people to stay in their homes and not be intimidated by banks. It has been joined by Unsettle Portland, which came out of the occupation. In February, they packed an auction and helped delay the eviction of a single mother while she challenged the banks.

Polls have shown almost twice as many Americans agreed with OWS than disagreed with it. Far from alienating middle America, the movement has captured the public and political imagination. It has shifted the national debate from debt to inequality and the focus of the problem from victims of the crisis (the poor) to its perpetrators (the financial institutions).

A Pew poll released in December revealed that 77 per cent of Americans believe there is too much power in the hands of a few rich people and corporations, while those who believed "most people who want to get ahead can make it if they are willing to work hard" was at its lowest point since the question was first put in 1994.

It also has the Republicans rattled. In his address to the Republican Governors Association in December, right-wing pollster Frank Luntz said: "The public... still prefers capitalism to socialism, but they think capitalism is immoral. And if we're seen as defenders of quote, Wall Street, end quote, we've got a problem."

STRENGTHENING PEOPLE'S CONFIDENCE

The relationship between the physical space that the occupation movement has held and its political efficacy has not been settled – and perhaps never will be. Its importance does not lie in what it means but in what it does. It started by changing how people think about the world they live in; now it is strengthening their confidence to change it. □

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Syria, Libya and Security Council

Interview with Hardeep Singh Puri, Permanent Representative of India to the United Nations. BY VIJAY PRASHAD

“Those who clamoured for military action wanted it with enthusiasm. Now they don’t want to have a discussion about what is going on in Libya.”

THE United Nations Security Council sits in a solemn “emergency room” in the heart of the U.N. complex in New York City. The 15 members of the Council, including the five permanent members, sit around a horseshoe table, under a mural done by the Norwegian artist Per Krogh. The panels of the mural showcase everyday life in northern Europe. At its bottom centre there is a phoenix, emergent from the flames, around which stand people who seem stereotypically “Eastern” (the women here have their faces covered, and the men wear turbans). A field artillery gun points at these people. It is their fate. Under an imagination that trusts in the good faith of the West and the perfidy of the East, the Council deliberates.

After the U.N. was formed in the 1940s, serious-minded people in its orbit wondered if the organisation needed its own military force. When conflicts break out, the U.N. would only have the power of moral suasion, and perhaps the authority to call for trade embargos. Nothing more was possible. Article 47 of the U.N. Charter called for the creation of a “Military Staff Committee to advise and assist the Security Council on all questions relating to the Security Council’s military requirements for the maintenance of international peace and security”. As the Cold War heated up, neither the Atlantic powers nor the Soviet bloc would permit the U.N. to create its own military force. The idea went into permanent hibernation.



HARDEEP SINGH PURI: “I am one of those who believe that if you didn’t have the United Nations, you would have to invent the United Nations.”

Both the Atlantic powers and the Soviets built up their own military capacity, and the U.N. became the preserve of the Third World, which took refuge there to try and build an alternative to the dangers of a nuclear showdown and the proxy wars on their lands. The United States and Western Europe created the North Atlantic Treaty Organisation (NATO), a robust military alliance that has now outlived the context in which it emerged. That context was the contest with the Soviet Union, which ran out of steam in the 1980s and ended finally in 1991. NATO remained, and thrived. It has since expanded out of its original base and absorbed most of Europe, including Eastern Europe, and has created networks with countries outside its region (through the NATO-Russia Council and the Mediterranean Dialogue). The singular aim of protecting Europe is now gone. Remarkably, in NATO’s 1991 Strategic Concept paper, a new mission appeared, “Allies could further be called upon to contribute to global stability and peace by providing forces for United Nations mission.”

The Atlantic powers had ignored or tried deliberately to undermine the U.N. through the Cold War,



MEMBERS VOTE ON a resolution on Syria in the U.N. Security Council on February 4, at the United Nations in New York.

and this tendency remained in the musty corners of the Far Right in the U.S. (represented by President George W. Bush's Ambassador to the U.N., John Bolton). NATO's 1999 Strategic Concept paper went a long way in establishing the centrality of NATO for "preserving peace, preventing war and enhancing security and stability" outside the lands of the member-states. But NATO would no longer act without seeking U.N. authorisation. The communiqué that was prepared by NATO's Defence Planning Committee meeting on December 7, 1990, pointed explicitly to U.N. Security Council Resolution 678, which "authorised the use of all necessary means if Iraq does not comply" with its withdrawal from Kuwait. NATO members would, the committee noted, "continue to respond positively to United Nations request", namely to go to war against Iraq. From 1991 onwards, NATO began to be the *de facto* military arm of the U.N. No other member had the capacity to bring "all necessary means" to bear on countries that did not follow through on U.N. resolutions.

Since NATO is not the U.N.'s official military force, it is only the U.N. resolutions that NATO finds most in

line with the national interests of its member-states that feel the full brunt of its military power: NATO did not act to protect Palestinian civilians in 2006, nor Congolese civilians during the long war from 1998 to 2007 that cost the region eight million lives. NATO members entered the Iraq war under a U.N. resolution; NATO went to war against Yugoslavia without U.N. authorisation but sought it afterwards; NATO threw itself into the War on Terror slowly in the 1990s and then forcefully after 9/11 (when it invoked Article 5 of its treaty, to defend one of its member-states that had been attacked and to go "out of area" to do so). There has been a substantial increase in the expansion of NATO's geographic domain, from the narrow confines of the North Atlantic to Afghanistan. It likes U.N. authorisation, but its troops do not put on the blue hats of the U.N. command.

The Yugoslavian war allowed NATO to extend its own sense of itself. No longer was NATO simply a defensive pact. It was now to be the defender of human rights, and it permitted itself to abrogate national sovereignty if this meant that it would prevent atrocities from taking place outside its domain.

The shadow of the 1994 Rwandan genocide hung heavy over this shift, as did the 1995 killings in Srebrenica (Bosnia). It was because of these grotesque events that the NATO member-states pushed the U.N. to consider what must be done to protect populations from harm. The Canadian government created the International Commission on Intervention and State Sovereignty in 2000, and its report (*The Responsibility to Protect*) was produced the next year. The idea of "responsibility to protect" (R2P) won out among the committee over the ideas of "right to intervene" and "obligation to intervene". The notion of intervention was to be kept out of the concept, although R2P is often seen as synonymous with Humanitarian Interventionism. In 2006, the U.N. adopted R2P as a mandate. NATO was to be its enforcer, and the International Criminal Court (which came into being in 2002) was to be its juridical arm.

The entire ensemble of the U.N. Security Council, R2P, the ICC and NATO was tested in the 2011 Libyan war. No prior war had seen all of these elements on display in one conflict. At an informal meeting on R2P at the U.N. on February 21, 2012, India's

Permanent Representative to the United Nations, Hardeep Singh Puri, said, "The Libyan case has already given R2P a bad name." Why was this so? "As soon as the [U.N. Security Council] resolution was adopted, the over-enthusiastic members of the international community stopped talking of the [African Union]. Its efforts to bring about a ceasefire were completely ignored. Only aspect of the resolution [that was] of interest to them was 'use of all necessary means' to bomb the hell out of Libya. In clear violation of the resolution, arms were supplied to civilians without any consideration of its consequences. No-fly zone was selectively implemented, only for flights in and out of Tripoli. Targeted measures were implemented insofar as they suited the objective of regime change. All kinds of mechanisms were created to support one party to the conflict and attempts were made to bypass the sanctions committee by proposing resolutions to the Council. It goes without saying that the pro-interventionist powers did not ever try to bring about a peaceful end to the crisis in Libya." In other words, the "international community", namely the NATO member-states, used the U.N. Security Council resolution for their own ends, disregarding the protocols in the resolution itself.

"The principle of R2P is being selectively used to promote national interest rather than protect civilians," noted Ambassador Puri. In August 2010, Puri reminded the General Assembly that "even the cautious go-ahead for developing R2P in 2005 emphasised the use of appropriate diplomatic, humanitarian and other peaceful means to help protect populations. The responsibility to protect should in no way be seen as providing a pretext for humanitarian intervention or unilateral action." Puri's rear-guard defence of the principles of R2P and the U.N. Charter runs up against the determination of the West to exercise its authority through the fog of "human rights".

When the February resolution on Syria failed to pass the U.N. Security

Council, U.S. Ambassador Susan Rice called the Russian and Chinese veto "disgusting". Germany's Ambassador Peter Witting told reporters that it was a "disgrace". For the U.S. and its NATO allies, the protocols of their new system (UN-R2P-NATO-ICC) had to be put into motion. Smarting from the experience of Libya, the Russians and the Chinese decided to use their power to put a stop to it. India voted for the resolution, even though Ambassador Puri is one of the main figures who have offered an intellectual criticism of the way in which R2P has operated. In this interview in New York on February 18, Puri explains why India abstained from the vote on the Libyan resolution (1973) and why India voted for the Syrian resolution now.

India has been on the U.N. Security Council for a year now. You have been India's representative for the duration. What is the mood in the Security Council during this year? What has been India's role?

The Security Council is primarily entrusted with the task of dealing with situations that constitute a threat to international peace and security. That has not changed over the years. What has changed and what is clearly demonstrable is that countries that wield political and economic power want to use the Security Council much more vigorously to deal with issues whose relationship with the maintenance of international peace and security is at best remote. This new approach started a few years ago. It is conditioned by the fact that in the major Western capitals there is a reinforced desire to seek legitimacy for their policy choices through the Security Council. Contrast this with the Bush administration, when they had a permanent representative here, John Bolton, whom my predecessor had the distinction of interacting with. Bolton said that if you knock 10 floors off the U.N. building the world would not be any worse off.

In our small limited world of people who join the foreign services of their respective countries, our tribe is broadly divided into two categories –

the bilateralists and those who have some kind of fascination for pluri-lateral or multilateral work. I have no hesitation in saying that, yes, bilateral work is extremely important. But for a country like India, which has both the civilisational past and the recent history as a young modern secular nation, and with aspirations to play a role, I don't think those objectives can be achieved without a multilateral arena. So I am one of those who believe that if you didn't have the United Nations, you would have to invent the United Nations.

The mood in the Security Council is determined by the overall global situation, the number of hot spots and so on. But the mood is also determined by those who have the capacity to influence and the capacity to mould the Council. There is a fundamental difference in the Council between those years of the Bush administration and [those of] the Obama administration. When we were first elected to the Council in October 2010, before we took our seat, we were invited to Washington for a discussion. President Barack Obama dropped in and engaged in a discussion of the major issues in which the Council was engaged. That shows the extent to which the U.S. under the Obama administration wants to utilise the Council and wants to pursue matters in the Security Council.

This has to be nuanced. The interest in engagement by Washington doesn't mean that they want to bring all issues to the Security Council. In fact, the cynic would tell you that Western governments only bring those issues to the Security Council which they do not want to handle entirely by themselves, through coalitions of the willing, Afghanistan being a case in point. They went in alone first, and subsequently U.N. missions came in.

The mood is also determined by the fact that global hot spots have suddenly proliferated. I mean when we were elected, Côte d'Ivoire was simmering. Côte d'Ivoire was relatively a simple situation. This was a question on an election in which the U.N. had a certification role. When the election

results came out, the incumbent, Laurent Gbagbo, refused to step down. The U.N. had a role to play. The talk at this time was, if Gbagbo does not step down, then let us get an interventionary force involved. The politics between ECOWAS [Economic Community of West African States] and the African Union interrupted this talk. You suddenly discover that talk about interventionary force is easier said than done. I think that in some capitals, the excitement of action gets the better of hard decision-making.

This excitement leaks into the Arab Spring, no doubt?

The fact of the matter is that most of the governments affected by the Arab Spring had the support of the West. I think the relationship between Egyptian President Hosni Mubarak and the West is well documented. The situation of Egypt in the context of the Israeli security calculus is well known. The fact that there was a sense of ferment on the Arab Street was well known. You could witness that in places like Tunisia where all it required was an inspector and an act of oppression against a helpless fruit vendor. It's palpable everywhere. But then there was this expectation that the Arab Spring is going to result in an outcome, which would have a democratic ending. Democracy being defined in Western liberal terms, not in terms of whatever majority comes up, as is the case in the West Bank [when Hamas won the elections in 2006]. Everyone welcomes the fact that the people of a country must express themselves; they must articulate their aspirations. Up to there, everyone is in agreement.

But the minute the result is such that the composition of the Egyptian legislature is 60 per cent Islamic Brotherhood and 25 per cent Salafists, then people start saying, "you know, this is not what we bargained for". And the prospect of change as a part of the Arab Spring ushering in radicalised Islam is something which, I think, gives cause for concern to those who were operating on a Western liberal democratic template.

What about the role of the mood created by the non-permanent members?

The mood in the Security Council during 2011 was, I think, determined by the fact that the Council had five aspiring members: Brazil, Nigeria, India, South Africa and Germany. So, at the very least, that makes for richness of debate. Therefore, the traditional, you know, somewhat apathetic approach to the Security Council was not on display. The permanent members, by virtue of their continued presence, tend to call the shots. But the non-permanent members do have views. However, the Council's outcomes are not always determined by those views.

Give me an example of when the five aspiring members were able to change the tone...

In fact, I am going to make a different point. So the world is perceived as being divided between the five permanent members and the other 10. So the first baby steps that we took in the Council is that we formed a group called the E10: the Elected 10 or the Elegant 10! As with any organisation which is looking at real life issues that affect people, you invariably end up – as my experience in trade negotiations in Geneva showed – introducing what are called Coalitions of the Interested. Now it would not be correct for me to say that all five aspiring members invariably took positions and were on the same page. In terms of broad policy, yes. In terms of the nature of the statement that they made, yes. But there were aberrations. For instance, we repeatedly found one of the African members, a declared aspirant for permanent membership of the Security Council, adopting a very low-key approach and voting invariably with the West.

Including in Resolution 1973 on Libya.

Including in Resolution 1973, if you are referring to a particular African state. You had another member from Africa which supported the resolution. Surprisingly, one of the Eu-

ropean members did, too. Germany abstained. Well, one needs to understand why this took place. It is only when you get that clarity that you know what happened between U.N. Resolution 1970 (on Libya), 1973 (on Libya again) and then the Syria resolution, which was vetoed, and in between, the unanimous articulation of the Security Council's position on Syria in the Presidential Statement (PRST) on August 3, 2011, when I was chairing the Council. That will remain for a long time to come as the only such unanimous PRST. We got a lot of kudos for it then, but I think in retrospect not many people who focus on the Council's work realised the value of the August 3 statement, both its content and the manner in which we got it through. But we will come to that in a minute. In order to understand what happened in Resolution 1973, you have to understand what happened prior to that, in Resolution 1970, which was the resolution of the Security Council on Libya that was unanimously voted.

The only disagreement that I recall on 1970 was the formulation contained therein, referring Colonel Muammar Qaddafi and some others to the International Criminal Court. There was a lively discussion within the Council, and some of us said, "Look, the threat of a referral would be more appropriate, because once you've referred somebody to the ICC then the clock is ticking, and you don't have the leverage which is required." The Americans agreed with our view, but some of the European members were in a terrible rush. They said, "No, no, we have to [refer it to the ICC]. This is the minimum." So I said, "Alright, in which case, what will happen when you come back because the situation is not going to change." I mean the manner in which the situation in Libya was spiralling out of control in February. So the short point is that that we got a unanimous resolution (1970), even though there was unease in the Council on that resolution.

By the time we came to 1973, there were major disagreements. Why? That



RON EDMONDS/AP

FORMER PRESIDENTS **GEORGE** W. Bush of the U.S. and Hosni Mubarak of Egypt at the White House in Washington in April 2001. There is a fundamental difference in the Council between the years of the Bush administration and the Obama administration, Hardeep Singh Puri says.

is entirely due to what was being proposed. It was very clear that many Western capitals were openly espousing regime change to begin with. Secondly, the language of 1973 contains explicit provisions for punitive and coercive action. It contains an explicit formulation, “all means necessary”, which is a euphemism or code word for military action. Now you don’t need knowledge of rocket science to realise what these provisions mean. We were going in for a Western-NATO military operation.

In the negotiations for Resolution 1973, all people of goodwill tried to insert some formulations in there, such as the call for a ceasefire, an arms embargo, and so on and so forth. The final outcome of 1973: I knew that this was going to be a stepping stone to disaster. Why? Not because any of us wanted to hold a brief for Colonel Qaddafi. Let’s be clear. India, in any case, did not have the kind of relationship with Qaddafi that some Western leaders had. You remember two visits by [British Prime Minister Tony] Blair to Qaddafi’s tent in the desert, in 2008 and in June 2009. If you look at the nature of the relationship many Western capitals had with Qaddafi, it is well documented that many sold arms to him. And there are allegations that Qaddafi’s money was not only subverting academic principles (at the London School of Economics), but also financing elections in Western Europe. India didn’t have this kind of relationship. In fact, the only known interaction at head of government lev-

el that I can recall was when Indira Gandhi visited Tripoli in 1984.

Yes, there were Indian workers in Libya, about 18,000 of them. But they were not working as part of large commercial contracts that India had. These were poor people who were hired by Western economic entities. They were in a difficult situation. After the last Western citizens were pulled out, the West declared war on Libya. And China and India had to start, you know, locating their citizens, making arrangements for them being taken to safety.

It’s interesting that there were news reports that suggested that the reason India abstained from voting on Resolution 1973 was that it was preoccupied with the problem of its nationals.

I know a little bit about that because I was the person here negotiating, and I was the person in charge of the Mission in New York. No. We abstained because we understood what was happening. Nobody wanted to hold a brief for Colonel Qaddafi. But we realised that this is a society that is characterised by tribal animosities and that the use of force is going to exacerbate the situation. But the interesting thing here is we were not alone in that assessment. There were several others, including people who voted for the resolution. The South Africans have told me on a number of occasions that their vote for the resolution was a mistake. But they said that their decision was not influenced, but conditioned, by the expectation that Resolution 1973

would help bring peace to Libya. Our assessment was different. Our assessment was that this was going to result in an Iraq kind of situation, with a Security Council rubber stamp. And I think in retrospect we were absolutely right. Interestingly, Russia and China also abstained. But you talk to the Russians and the Chinese now; they say, “We made a mistake. We should have cast the veto.”

What is their assessment? If they had vetoed Resolution 1973, how would events have played out?

That is very difficult to say because that involves a hypothetical scenario. The military operations commenced on March 14, 2011. In the run-up to the commencement of the military operations, the question was, “where would the assets come from?” And it was very clear that it would have to be a NATO operation, and within NATO also there wasn’t much of an appetite from the U.S. But they were talked into the situation, or they decided to get involved, and then they pulled back. All of us realised immediately that this talk about countries in the region participating was without a solid basis. I don’t know how many Arab countries in the region could participate. But it was essentially a NATO military operation.

When military operations ostensibly concluded, it was clear that the post-conflict Libya would require a lot of attention. But during the military operation justified by Resolution 1973, the Council faced the spectacle of not being able to enforce a ceasefire, which was in the resolution. When we all asked for a ceasefire, we were told that, no, they were not in the mood until the entire Qaddafi establishment, the entrenched establishment, was overthrown. So even though Resolution 1973 does not talk about regime change, that was certainly the standard.

What about the arms embargo, which was also in 1973?

You know the only reason the Council agreed to the arms embargo



ALASTAIR GRANT/AP

LIBYAN LEADER MUAMMAR

Qaddafi (right) with British Prime Minister Tony Blair outside Tripoli, Libya, in March 2004. India did not have the kind of relationship with Qaddafi that some Western leaders had, says Puri.

was that there was a desperate plea from the Arab League. And they said, if the Council does not intervene there will be rivers of blood, and they went on to say that the Council owed it to the poor people in Libya who were being slaughtered. Saif al-Islam [Qaddafi's son] had made a statement on the previous day that they would hunt down all the Benghazi rebels like rats. I remember the statement that I made in the Council. This was all in a closed session. I said, first of all, the phrase "rivers of blood" is the intellectual property of Enoch Powell, the Member of the British Parliament from Wolverhampton. Powell said that in the context of immigration of coloured immigrants from the Commonwealth. And you know, that turned out to be baloney. So we don't know what will happen.

In that atmosphere nobody wanted to be seen to be doing nothing, and the intentions of those who were asking for the resolution were not suspect till then. The arms embargo means that you will not be arming the Benghazi rebels while you are conducting military operations against Qaddafi. We kept asking this. I remember asking, "Do you know who these guys [the

rebels] are? These chaps that you are arming, etc?" Now we know the facts of who these people are, such as Belhadj [Abdelhakim Belhadj], the emir of the Libyan Islamic Fighting Group] who had been handed over in a terrorism rendition case. They kept saying that this is a grand alliance between the people of Libya and the West in order to get rid of a tyrant. We kept telling them to listen, just think this one through. And now we are told by a senior human rights officer that about 8,000 people in detention centres are being held without trial in today's Libya... about the rampant abuse of human rights and extrajudicial killings: that's exactly what we were saying.

Is there a mechanism in the Security Council to go back and revisit the Libyan war, Resolution 1973, and exactly how you are laying it out? Is there a way for the U.N. to do this in order to understand the precedent set for the Council?

Russia has asked for the Security Council to undertake an evaluation of protection of civilians, because Resolution 1973 is about protecting civilians. So what kind of damage was there, collateral damage to civilians, etc? There is great reluctance to undertake that. That is the issue. So I hope you are very clear as to why India abstained on Resolution 1973. You know, as students of history, one does not know how it's going to work, but with the benefit of hindsight, you should have voted against it. That is the predominant view on the Council. Those who clamoured for military action wanted it with enthusiasm. Now they don't want to have a discussion about what is going on in Libya. That is why they don't want any open sessions.

What about Syria, then?

Look clearly, given a situation in which the Alawites constitute 12 per cent of the population, with the total minority at about 26 per cent. Any society where there is a minority of 26 per cent and a majority of 74 per cent, there is going to have to be a social compact. That compact worked be-

cause different communities were co-opted. But one thing is very clear about Syria. As we proceeded in the Council, it became clear (and this also comes out in the [al-Dabi] report to the League of Arab States) that there is an armed component to the opposition. Those who want a strong condemnation of Damascus will tell you that helpless civilians turned to the opposition, and they armed themselves only when they were being slaughtered. Be that as it may. It is very difficult to calibrate as to when one became the other, when the peaceful became the armed, when a qualitative change took place. My sense is that you cannot get peace in Syria unless both sides walk back. Therefore, you need complete cessation of violence. You need an inclusive Syrian-led dialogue without preconditions, and you need the engagement of all sections of civilian society on issues related to constitutional reform.

Do you think the Libyan experience has made it impossible for both sides in Syria to take a step back?

Well, there is some suggestion that President Bashar al-Assad might be willing to talk, but those who are financing and arming the opposition think that they will be able to succeed, drawing on the Libyan experience. I must say frankly: whether we vote for or against or abstain on the Syrian resolution is not the issue. Because of the Libyan experience other members of the Security Council, such as China and Russia, will not hesitate in exercising a veto if a resolution – and this is the big if – contains actions under Chapter 7 of the U.N. Charter, which permits the use of force and punitive and coercive measures. So your question is absolutely pertinent. And, you know, the Libyan experience means different things to different people. The unsettled state of Libya means that there are mercenaries who are operating in Libya, who are going back to Niger and Mali, bringing chaos.

Nothing that I've said should lead to any inference being drawn that we are unhappy with the transitional gov-



GORAN TOMASEVIC / REUTERS

AFTER A NATO air strike on pro-Qaddafi forces, on the road between Benghazi and Ajdabiyah in Libya in March 2011. From 1991 onwards, NATO began to be the de facto military arm of the U.N.

ernment. We want to see the people of Libya being able to vote, and we hope for a positive outcome. What we are doing here is understanding Resolution 1970 and Resolution 1973.

We were able to get unanimity in the Council, under the Indian presidency, on the presidential statement in the Council on Syria on August 3, 2011. We stopped short of incorporating Chapter 7. We condemned the violence. We called on both parties to step back and we asked for a dialogue abjuring violence. That was the message we had given bilaterally through IBSA [India-Brazil-South Africa]. That is a message we have given collectively.

We were told we – that is, the PRST [U.N. Security Council President's Statement] – need unanimity. So our contribution, apart from making sure that we got the text that we wanted, was to get unanimity. We have seen statements by former U.S. diplomats who said, “Oh, this was not an Indian

thing, this was negotiated between Brazil and France.” I mean, I can tell you, you can talk to the Secretariat, the Indian presidency was the first time in the history of the Security Council when the President did the negotiating. I mean full marks to all the delegations because they came on board, but we were doing the negotiating. We were not only chairing. Then we knew that this would fall apart because Lebanon would not be able to join the PRST. So we looked for a precedent to allow them to disassociate from the statement. We found one in 1974. So we got a unanimous Presidential Statement in August 2011.

Then two months later, on October 4, Britain and France brought a resolution before the Council which was essentially the same as the PRST, except it had a reference to Article 41. This would mean we would consider further measures, including from Article 41. Not that they will take these mea-

sures, but if this does not work, then they would. Two permanent members of the Security Council co-sponsored the resolution. Two permanent members [Russia and China] vetoed it, and the fifth, the U.S., under provocation from the Syrian ambassador, walked out.

So this is it. There is a complete difference between August and October. We abstained in October. So why did we vote in favour of the February resolution on Syria? Because the February resolution [which Russia and China vetoed] was explicitly clear that it was not under Chapter 7 [use of force]. So Resolution 1973 and this one are fundamentally different. So that's the reason why we supported one and didn't support the other.

So you think now the sense is that people are going to be extremely concerned about Chapter 7?

Yes.



Arab Spring and the social media

The buzz generated online at momentous junctures, such as the uprisings in the Arab world, is certainly more than mere static. BY SASHI KUMAR

The digital social media not only mirror but feed into the dynamics on the ground in terms of mass mobilisation, chronicling of direct action, signalling flash strikes and piercing the smokescreens that the authorities raise at such times.

*"The revolution will not be televised,
Will not be televised, will not be televised,
The revolution will be no rerun brothers,
The revolution will be live."*

THE Gil Scott-Heron song of the 1970s has, over the succeeding decades, become a mixed metaphor of sorts, invoking at once the mutuality and the disjuncture between the media and historic moments of political upsurge. We have seen military coups and putsches in Africa, Asia and Latin America acquire a media coefficient, with the broadcasting station becoming as much a seat of power to be targeted as, and even before, the parliament or the presidential building. We have seen airwaves unleashed in the mid-1980s by the new Direct Broadcast Satellite (DBS) technology – wireless television signals that do not respect national boundaries – sweep away the hitherto insulated communist regimes of East Europe.

Moving into the "globalising" and "unipolar" era, we have seen a brazen counter-revolution (even if it collapsed in two days) by the United States-backed Venezuelan oligarchs and fuelled by their private-owned TV channels against Hugo Chavez's democratically elected government in 2002. We have seen, too, a spate of colour-coded revolutions rang-

ing from the Tulip Revolution of 2005, which typifies those of various hues in the Commonwealth of Independent States (CIS) culled out of the former Soviet Union, to the anti-Mahmoud Ahmadinejad Green Revolution in Iran of 2009, and the pro-Thaksin Shinawatra Red Shirt movement in Thailand in 2010 – which are seen as engendered by the new-found connectivity and virtual community capabilities of the user-driven digital cyber media, cumulatively dubbed the "social media" of our times.



DEMONSTRATORS DEFACE A poster of President Hosni Mubarak in Alexandria, Egypt, on January 25, 2011, which was dubbed a "Day of Rage". Cadre of the Muslim Brotherhood stayed away from the protest, which was mobilised in good part by Twitpic, Facebook and YouTube.

The Arab Spring, the latest in the series, takes the social media determinism hypothesis to a new high and into contending camps arguing respectively that the revolution will and will not be tweeted. The buzz generated online at such momentous junctures is certainly more than mere static and transforms, by novel means such as hashtagging, into a concerted agenda with a burgeoning agitated engagement around it. Twitter, Facebook, YouTube, wikis, blogs, vlogs and podcasts not only mirror but feed into the dynamics on the ground in terms of mass mobilisation, unblinking blow-by-blow chronicling of direct action, signalling flash strikes and demonstrations and tactically staggering them to outwit the police, coordinating succour to those involved in street battles and piercing the smokescreens that the authorities raise around such situations. In Tunisia, Egypt, Yemen, Syria, Jordan, Libya, Bahrain and other Arab countries, the digital social media became so imbricated in the people's movements kindled by the fire that consumed the Tunisian street vendor Mohammed Bouazizi in his iconic act of self-immolation in December 2010 that the sense was not so much of an online chatterati with a ringside view of the action driving the traffic as of cyber agit propagandists driving the action themselves. In the jargon of the medium, the *twitterati* it seemed had become, or been overwhelmed by, the *tweeple*.

The *twitterati-tweeple differentiation*, in a manner of speaking, digitally parallels the *liberalisation-democratisation dichotomy* in the Arab world – where liberalisation was a top-down initiative launched in the late 1980s by regimes in tandem with traditional oligarchs co-opting an emerging economic elite and thereby keeping grass-roots popular democratic churning at bay. This calibrated liberalisation saw fairly free parliamentary elections being held in Jordan (1989) and Yemen (1990); the Syrian parliament accommodate seats for 60 new independent candidates (1990); robust and competitive local elections

being conducted in Algeria (1990); and even rigid Saudi Arabia experiment with a 60-member consultative body, the *majlis ash-shura*, and a code of basic civil rights, the *al-hukum al-asasi*.

By the mid-1990s, however, the regimes on this path had reached their respective thus-far-no-further thresholds and taken a U-turn into a counter phase of active de-liberalisation marked by draconian laws against the press, suspension of elections, and clampdowns on the opposition, particularly the Islamists. The process was uneven across the region, but broadly, if paradoxically, the regimes that were legatees of Arab nationalist, Baathist or Nasserite takeovers seemed quicker than the rest to cut short the liberalisation exercise because it was seen as opening up the space for Islamist groups to flex their muscles. The Gulf kingdoms, on the other hand, continued with a gradualist liberalisation of a beneficent patriarchal variety – in July 2002, Qatar drafted a new Constitution with provision for secret ballot by the population, including women; Bahrain released political prisoners and held out assurances of elections.

AVOIDING REGIME CHANGE

In sum, as Holger Albrecht and Oliver Schlumberger point out in their essay “Waiting for Godot: Regime Change Without Democratisation in the Middle East” (*International Political Science Review*; October 2004), this qualified liberalisation helped a permutation and co-optation in the structure of the governing elite, thereby “avoiding regime change by change in regime”. It did not, and was never meant to, lead to democratisation. On the contrary, as the cited authors observe, “the common denominator of all these changes in the functional logic of these regimes is that they served to foreclose the emergence of autonomous rival forces”.

The regimes managed to keep things from spilling over into the street by soft-peddalling the structural adjustment programmes in the 1980s, and by rampant NGO-isation of society since

then, so that class-based protests by trade unions or the peasantry were marginalised and Islamisation seemed the only oppositional act in town. Thus, the “Arab street”, as it came to be called, was stereotyped in Western consciousness as a rallying point or barometer of pan-Arab sentiment rather than a site of local specific struggles. Asef Bayat in his article “The Street and the Politics of Dissent in the Arab World” (*Middle East Report*; Spring 2003) discusses how this sweeping Orientalist Arab street fixation misled Western policymakers and media into strange assumptions and stranger deductions. In the aftermath of 9/11 and the looming threat of the U.S. war on terror, the expectation was that the Arab street would rise in support of Osama bin Laden. When the street did not stir, the conclusion was that the street did not matter any more rather than that the street may not be in empathy with bin Laden. *The Economist* declared the “death” of the Arab street, and Condoleezza Rice, the then National Security Adviser, went on to postulate that since Arabs, sans street power, could not liberate themselves the U.S. must deliver them from their despots. “In the narratives of the Western media,” Bayat cryptically concludes, “the Arab street is damned if it does and damned if it doesn’t.”

Bayat goes on to recount how the Arab street responded very differently and defiantly to the Israeli invasion of the West Bank in the end of March 2002 and to the U.S.-led invasions of Iraq and Afghanistan. Millions of Arab citizens poured out on to the streets of West Asian capitals in a massive show of solidarity and strength, often defying local laws and authorities. There was a coordinated boycott of American and Israeli goods, including McDonald's, KFC, Starbucks, Nike and Coca-Cola. Coca-Cola, which lost between 20 and 40 per cent of its market share in many Arab countries, was replaced by the Iranian Zam Zam Cola, which sold 10 million cans in the Gulf kingdoms in just four months. A counter cola market thrived briefly with Zam Zam being exported to European



MAHMUD HAMS/AFP

MECCA COLA PRODUCED at a plant outside Gaza City, on September 19, 2010. After the Israeli invasion of the West Bank in March 2002 and the U.S.-led invasions of Iraq and Afghanistan, there was a coordinated boycott of American and Israeli goods, including McDonald's and Coca-Cola. A counter cola market thrived briefly.

states, including Belgium and Denmark. Another brand, Mecca Cola, surfaced in Paris, and two million bottles were sold in two months to European Arabs. All this pointed to the political and economic potency of the Arab street.

CYBERACTIVISM

Cyberactivism was in its early days yet although it had proved crucial and decisive in organising the Seattle protests against the World Trade Organisation (WTO) towards the end of 1999. The incipient Internet did not yet have the digital social media complement; Wikipedia had just been launched (2001) and Facebook and YouTube were yet to hit cyberdom. Indeed, a recent article in *The Economist* ("How Luther went Viral"; December 17, 2011) reminds us that social media as a genre or phenomenon are not unique to the digital era and were marked by the same irrepressible energy and frisson 500 years before Facebook. When Martin Luther nailed his "95 Theses" against papal indulgences to a church door in Wittenberg in October 1517 – heralding the Reformation – they were swiftly disseminated by a set of retail media, including printed pamphlets, woodcuts, ballads, to become common currency across Germany and Europe in a matter of weeks.

There was already, at the dawn of this century, an established practice of agitation and indignation on the Arab street being spawned by a variety of what Bayat calls "small media". Audio and video cassettes of popular, if controversial, Islamist folk heroes – such as the Egyptian theologian Yusuf al-Qaradawi (in exile in Qatar since the 1960s and well until the recent upsurge when he returned to Cairo); Sheikh Abd al-Hamid Kishk (whose hilarious Friday sermons were a huge draw until they were proscribed by President Hosni Mubarak in the 1980s); the Lebanese Ayatollah Fadlallah, considered the spiritual mentor of the Hizbollah; and the Egyptian television evangelist Amr Mohammed Khalid – were widely circulated. They jostled and vied for attention with a repertoire of hot-selling recordings and albums by a constellation of Arab icons – ranging from the adulated evergreen divas Umm Kulthum of Egypt and Fayroz of Lebanon to the Moroccan satirist Ahmed Sanoussi and the more contemporary stars of Egyptian pop and fusion, Amr Diab and Mohammed Munir. The undercurrent of aspirational Arab-hood and political identity in this eclectic spread of rhetorical, satirical and musical work heaved again to the surface with the Israeli action in the West Bank in

2002 when these cultural products were in popular demand afresh.

When it came to internal domestic criticism in the authoritarian regimes of the region, the creative media seemed to pack more punch than the formal news media, which when not run by the state was under its systematic scrutiny. The Egyptian film *The Yacoubian Building*, made in 2006 based on Alaa Al Aswany's novel of 2002, was a powerful allegory on a society corroding from within. Set in and around an old Armenian building in the centre of Cairo, the film deals boldly with the quotidian and larger moral challenges faced by its disparate residents, who include, in the description of the director Marwan Hamed, "a corrupt politician, an autocratic womaniser, a destitute young woman who lives on the roof of the building and is sexually abused at work, a talented student who mutates into an Islamic terrorist after he is denied the opportunity to study at the police academy because his father works as a janitor and has a low social status, a journalist who suffers because of his homosexuality, and a shoeshine boy who rises to become a Member of Parliament and misuses religion to pursue his own interests".

That recipe was bad enough, sampling as it did real-life characters and situations in Egyptian society. The conservative sections and the ruling class of Egypt came down heavily on the film, with 112 Members of Parliament demanding cuts. But the box office gave it a rousing welcome, and a follow-up television serial of the same story the next year made *The Yacoubian Building* almost a household name and an oblique precursor of Tahrir Square. For, to quote its director again, "The film is a document of the time we live in because it shows very openly what many are thinking in secret.... Corruption has eaten its way into all areas of Egyptian life." A dialogue between the skirt-chasing, ageing grandee Zaki and the exploited young Busayna towards the end of the film sums up its allusive potency.

"If you can't find good in your own

country,” Zaki tells Busayna, “you won’t find it anywhere else.”

“Then you will know why we hate Egypt,” is Busayna’s tormented reply.

Not all creative gambits paid off like *The Yacoubian Building* did. The first graphic novel in Egypt, *Metro*, produced by Magdy El Shafee in 2008, about a computer engineer’s futile fight against a system dankly and hopelessly corrupt, was banned by the authorities. Magdy was taken to task for testing public morals, subjected to a long trial, convicted and fined. This censorious atmosphere notwithstanding, a corpus of new and pioneering writing emerged, its authors strongly informed, even shaped, by the Internet and hazarding a different language: among them Ahmed Alaidy, whose novel *Being Abbas El-Abb* (2006) deployed a new hybrid vocabulary; Mohammed Aladdin, who wrote up all of his 60-page novel *The Gospel According to Adam* (2006) in one paragraph; Mansoura Ez Eldin with her oneiric brinkmanship in *Maryam’s Maze* (2007) and *Beyond Paradise* (2009); and the graphic artist Ahmed Negy, whose face and T-shirt designs became familiar in the Tahrir Square tumult.

The digital social media that burst on the scene with the YouTube-tagged “Sidi Bouzid” campaign after Mohammed Bouazizi’s self-immolation (in that coastal town of Tunisia) and merged into the chant “Ben Ali, out” on Facebook and diverse other online fora, and then spread virally to feel and feed the pulse of revolt as it expanded into the streets and public squares of Egypt, Libya, Syria, Jordan, Morocco, Yemen, and Bahrain and other Arab states, are generally approached as

exogenous to the social and cultural logic of each situation. The same fallacies applied in taking stock of the Green Revolution in Iran were in evidence here. There is a body of analysis now questioning the assumption that social media played a decisive role in the pro-Mir Hossein Moussavi and anti-Ahmadinejad rallies after the Iranian elections of 2009 on the grounds that the preponderant volume of tweets and online messaging were in English and not Farsi, aimed at Western rather than local netizens, and unlikely to have intervened in, or crucially impacted, the course of events on the ground. The online excitement around the event then was ostensibly greater among the observers than the participants.

The Arab Spring, on the other hand, does seem to have integrated the social media in far greater measure. But it still appears to hover above the ground reality like a universalising

tech-veneer unable to acquire a *raison d’être* in terms of each specific context. This is perhaps partly a function of the nature, scale and pitch of Internet technology, which lends itself to a non-hierarchised and loosely networked cyber flatland. But without the underpinnings that relate them to local practice, custom and lore, do they tend to freewheel into a global rather than local realm and consciousness?

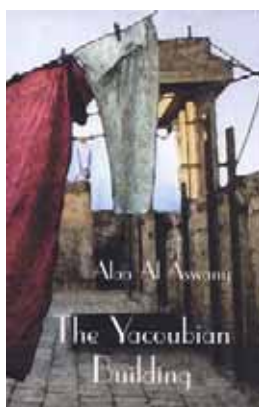
Brian T. Edwards, in his article “Tahrir: Ends of Circulation” (*Public Culture*; Fall 2011; Volume 23; No. 3), reflects on this tension informing the digital social media. “What are the ends of circulation?” he wonders. “Does the digitally enabled circulation of revolutionary images, ideas, even advice – and in liter-

ary production of forms, genres, motifs – end in places like Cairo, where it is incorporated into a local idiom and national context? Or, is it precisely the abstraction and compression of representations of local meanings – a necessary precondition for forms to make their way across publics, from one mode in the circularity matrix to another – that allows them to flow globally, where they might achieve various ends?”

CONNECTIVITY & CENSORSHIP

The application of the social media across the Arab states was also uneven for reasons of connectivity, censorship and local politics. Digital media as a player in the protests were more vibrant and visible in Tunisia and Egypt. They were relatively subdued in Libya, where the state controlled the Internet, and in Yemen with its low Internet penetration. Syria with only 15 per cent of its population online seemed to produce more noise because the pro- and anti-Assad forces were logged on at loggerheads with one another. The opposition has also accused Twitter and Facebook of lending a helping hand to the Assad regime by blocking tweets and posts in the country. There were similar hurdles to free circulation of social media in the region, with other regimes, too, resorting to time-, location- and content-specific blocks.

In Egypt, the social media initially bypassed the Muslim Brotherhood, which subsequently emerged as the group with the best electoral prospects. Cadres of the Brotherhood stayed away from the Day of Rage protest of January 25, 2011, which was mobilised in good part by Twitpic, Facebook and YouTube and for which more than 90,000 people signed up on Facebook alone. By January 28, the government was cracking down on this mobilisation through the Internet and mobile phones by pressuring operators to suspend services in selected locations. Opposition groups, particularly the Baradei Action for Change, countered this attempted blackout by hitting the streets and exhorting people to join them to the slogan “Down with Mub-



“THE YACOUBIAN BUILDING”, book cover and a movie poster.



arak". The authorities responded by imposing curfews and driving the protesters back indoors and, ironically, to their computer keyboards with a vengeance. The regime could not, apparently, keep them away from both the streets and their computers at the same time. Thus it went until February 10 when Vice-President Omar Suleiman announced Mubarak's resignation. In the weeks leading up to his ceding power, there was an estimated tenfold increase in the tweets on the situation. Videos on the protest consumed gigabytes of YouTube space, the top two dozen fetching nearly five and a half million views.

There were through all this the flash narratives of net heroism. The Tunisian activist blogger Salim Amam was pitchforked from Ben Ali's jail to Minister of Youth & Government, a position he gave up soon. The Egypt-based Facebook group "We are all Khalid Said", commemorating the young man who had been killed by the police in 2010, had over 80,000 followers on January 27, 2011, the day before the massive Friday turnout – which was a sudden spike from the 20,000 who had registered the previous day. *The New York Times* ran front-page stories in February 2011 about an Egyptian who named his newborn daughter Facebook and another eulogising Google's Egyptian chief, Wael Ghonim, for waging the revolution via Facebook groups.

But sobering thoughts temper the enthusiasm. The key social platforms mediating the Arab Spring – Facebook, Twitter and YouTube – belong to U.S.-based private corporations. Indeed, e-diplomacy is the latest plank in U.S. foreign policy, of which information hegemony and control have been an integral part since the end of the Second World War. Some of these media organisations were also complicit with the regimes in removing videos from, or cutting access to, their sites at critical junctures. In some of the Gulf states, Skype was completely blanked out. There are reports of Egyptian youth planning to sue Internet companies that colluded with



SAUDI PRINCE WALID bin Talal, who took a \$300 million stake in Twitter. The issue of censorship becomes intriguing with news of Twitter agreeing to accommodate requests from governments and organisations to remove tweets that run foul of the law of their lands.

Mubarak. The issue of censorship becomes intriguing with news of Twitter agreeing to be accommodative to requests from governments and organisations to remove tweets that run foul of the law of their lands. As this came just a month after Saudi prince Walid bin Talal took a \$300-million stake in Twitter and in the light of Facebook's market foray with a \$5-billion initial public offering, it may not be just cussed conspiracy theory to see a pattern in these developments.

The social media were combative against, and buttressed by and dovetailed into, the dominant mainstream pan-regional media, Al Jazeera. The channel's programme "The Stream" aggregated citizen journalism and a lot of the activist social media. Soon after Mubarak ceded power, Wadah Khanfar, the managing director of the channel, acknowledged the mediatory role of the citizens of Tunisia and Egypt: "The youth of the Middle East [West Asia], choosing universal values from within while embracing tolerance and diversity – they are our reporters." Al Jazeera also rebroadcast its social media generated content to the U.S. through Free Speech TV, a non-profit satellite network accessed by an estimated 35 million homes there.

The nature and scope of the agency of the social media in the Arab Spring are, given the continuing flux in the

region, a developing story. But the reading in Western capitals that this leavening of aspirations across the region, leveraged by cutting-edge digital media, is *ipso facto* a popular demand for the Western liberal democratic model is proving premature and misplaced, with Islamist parties best placed to win the elections marking regime change in each country. The medium is clearly not the message in this case. Are the assorted social media manufacturing a public sphere, or people-hood, that cuts across the traditional categories of the *ummah* (or Islamic nationhood) or the *millet* (for the minorities) or that challenges the *assabiyah* (tribal or clan affiliation) factor even while upholding the *sharia* as the ultimate arbiter?

The distinction between *liberalism*, with its emphasis on individual liberty, human rights and the rule of law, and *democracy*, understood as combining the principles of equality, majoritarian rule and sovereignty of the people, may make a difference to that question. The rhetoric of the social media has, typically, been stridently Western liberal and impatient, with the deliberative representative process organic to the political ethos of the Arab states. The street scuffles breaking out in Egypt and Tunisia between the Islamists, who probably see themselves as the democratic heirs of the Arab Spring, and the freer-wheeling protesters – many of them poster boys and girls of the social media – who are wary of a "counter-evolution" by the remnants of the old regime in league with the Islamists, keep the margins of the movement, even where it has been successful so far, restless. The social media, as is their wont, flock to the dizzy fringes of the movement and root for dramatic and drastic changes. In the process, they may well be getting ahead of themselves and not helping the transition they have helped usher in crystallise. □

Sashi Kumar is Chairman of the Media Development Foundation & Asian College of Journalism and former West Asia correspondent of The Hindu and Frontline.

Faster than light?

Interview with Prof. Antonio Ereditato, University of Berne, Switzerland, and member of the OPERA experiment team. BY R. RAMACHANDRAN

“The leitmotif of our measurement is accuracy.... If you want to work with nanoseconds and centimetres over such times and such distances you need to not neglect anything. Maybe this is a lesson we learnt.”

IN September 2011, a large collaboration experiment between the European Organisation for Nuclear Research (CERN) in Geneva, Switzerland, and Laboratori Nazionali del Gran Sasso (LNGS), Italy, called OPERA (Oscillation Project with Emulsion-Racking Apparatus) shocked the world of physics by claiming that it had observed superluminal (travelling faster than light) neutrinos.

This observation shakes the very foundation of modern physics, one of whose pillars is the Special Theory of Relativity (STR) formulated in 1905 by Albert Einstein. According to this theory, nothing can move faster than light, whose velocity (c) is 299,792,458 m/s. Only zero mass particles such as light particles or photons can travel with velocity c . But OPERA found that neutrinos had travelled a distance of 732 kilometres at a speed of 299,799,863 m/s, which is about 1.0000247 times c .

Neutrinos are tiny fundamental particles which, like photons, are chargeless but do have very small mass. They are about a million times lighter than electrons and exist in three types, electron-neutrino, muon-neutrino and tau-neutrino. Each is associated respectively with the familiar electron and its heavier cousins muon and tau. Neutrinos are weakly interacting particles and, therefore, can travel practically unhindered through matter over very long distances.

The OPERA experiment is basically a time-of-flight experiment, which uses a neutrino beam called the CERN Neutrinos to Gran Sasso (CNGS) beam, which is shot through the earth to be received across a baseline of 732 km at Gran Sasso (Fig. 1) and the neutrino velocity is given by the ratio of precisely



PROFESSOR ANTONIO EREDITATO: “The goal is to understand our results, whether it is correct or wrong, and only other measurements can do that.”

measured distance and time of flight. At the CERN end, a pulsed 400 GeV proton beam from an accelerator is made to strike a graphite target to produce particles called pions and kaons. These particles are then focussed along the CNGS tunnel with magnetic fields. Both pions and kaons are unstable and decay via weak nuclear interactions to yield muons and associated muon-neutrinos. Another graphite target stops the protons, pions and kaons, while the muon-neutrinos, with an average energy of 17 GeV, continue their flight unaffected.

OPERA used advanced GPS receivers to measure the exact timings and coordinates of the points at which neutrinos were created and received. Appropriate geodetic techniques were used to transform the GPS coordinates (on the WGS84 geodetic datum) to the global coordinate system ETRF2000 to fix the coordinates of the source and detector accurately. GPS timing signal receivers were linked to atomic master clocks which were synchronised at both ends to determine the timings precisely.

Taking into account all time delays, which required exact measurement of lengths of connecting

cables, etc., OPERA found that neutrinos had arrived 60 nanoseconds sooner than they should have even if they had travelled at c . Strictly speaking, neutrinos, which have tiny mass, should be travelling at velocity very close to c .

DOUBTS OVER MEASUREMENT TECHNIQUES

OPERA had measured the speeds of 15,233 neutrinos extremely carefully with several checks and counter-checks, with a 0.2-in-a-million chance of being wrong (known as 6-sigma accuracy in statistics). The accuracy of the experiment can be judged from the following. The distance had been measured with an uncertainty of only 20 cm over a distance of 730 km and the timing had been measured with an accuracy of less than 10 nanoseconds over a time of flight of 2.4 milliseconds (ms).

Clearly, this violated one of the fundamental principles of physics which has been tested zillion times in diverse physics experiments involving high energy particles. Indeed, the many experiments at CERN and the

operation of the accelerator which produced the proton beam are themselves different tests of STR. So, naturally, the OPERA results were received with all-round scepticism, and doubts were expressed about the instrumentation and techniques used for the exact measurement of the distance and the timings of actual creation and detection of neutrinos as well as about other unsuspected systematic errors. One of the largest sources of uncertainty was the exact timing of neutrino creation because of the large width of the proton pulse. To address this issue, OPERA reduced the pulse width and measured the velocity of each neutrino from 20 well-separated, extremely short-duration proton pulses. The pulses were 3 ns long, separated by up to 524 ns compared with the earlier 10.5 microsecond pulses separated by 50 ms. Results from this bunched beam run in November 2011 reconfirmed the earlier finding.

Professor Antonio Ereditato, a member of the OPERA team and head of the Laboratory for High Energy Physics (LHEP) at the University of Berne, was in India in early February.

He spoke to *Frontline* in Chennai when he was visiting the Institute of Mathematical Sciences (IMSc). Professor Ereditato, who is also the spokesperson for OPERA, discussed in detail the team's confidence with the result, how the various sources of error had been addressed carefully, and the team's continuing efforts to find any unsuspected source of systematic error.

CERN issued the following (anticlimactic!) press release on February 23.

"The OPERA collaboration has informed its funding agencies and host laboratories that it has identified two possible effects that could have an influence on its neutrino timing measurement. These both require further tests with a short pulsed beam. If confirmed, one would increase the size of the measured effect, the other would diminish it. The first possible effect concerns an oscillator used to provide the time stamps for GPS synchronisations. It could have led to an overestimate of the neutrino's time of flight. The second concerns the optical fibre connector that brings the exter-



A VIEW OF the Oscillation Project with Emulsion-Racking Apparatus detector at the Gran Sasso National Laboratory located under the Gran Sasso mountain in Italy. Superluminal neutrinos had been measured along a 732-km trajectory between CERN in Switzerland and Gran Sasso in 2011.

nal GPS signal to the OPERA master clock, which may not have been functioning correctly when the measurements were taken. If this is the case, it could have led to an underestimate of the time of flight of the neutrinos. The potential extent of these two effects is being studied by the OPERA collaboration. New measurements with short pulsed beams are scheduled for May."

It is important to note that the above two possible errors in measurement have opposite effects on the final result. It may well, therefore, happen that even after these defects are rectified the net effect still gives a velocity greater than c . So the final word on the result will only be known in May. Excerpts:

How confident are you that these observations are indeed correct?

The confidence of an experimentalist in all the data depends very much on the kind of result. It is clear that measuring a cross-section or a decay rate, measuring a resonance or whatever in our field of particle physics, if you are confident that you have done your simulations, your data analysis correctly and a good detector knowledge is in your hands, then you can say that you are very confident. It is clear that now the same argument, which in principle should apply to this measurement as well, is certainly perturbed by the nature of the result – a result which seems to be striking [and is] certainly in contradiction to most of the things we usually know.

So in this case we have to apply a certain damping factor to your confidence and you become hypercritical. I would say that we are at this stage. We are certainly confident that we did our job correctly; otherwise we would have said that we did this or that mistake. But, on the other hand, as I said, we are hypercritical, hyperconscious that we should not stop. So we do not want to give a grade or mark to our conclusion. We just say that this is our best understanding and we continue to work hard to find possible flaw or mistake or whatever.

It has been stated that this experiment has been done with extremely high precision and accuracy of both distance and time.

Can you give us an idea of the precision with which these quantities have been measured?

As you correctly stated, this is an accuracy measurement. We have a distance of 730 km and a time of flight that normally would take 2.4 ms. In order to do this we need to measure the two quantities to within much much smaller [uncertainty] than the effect we expect to see. I can tell you that we are able to measure the distance between CERN and Gran Sasso, the two reference points, with an accuracy of 20 cm over 730 km and the difference in [the two] times is at a level of 10 nanosecond [accuracy] over a flight of 2.4 ms. So it is a very small uncertainty.

It was reported that some people from the OPERA team did not sign the first paper (of September 2011) and some of the same people signed your second paper with bunched beam (of November 2011) but some others who had signed earlier withdrew? Would you throw some light on this as I am sure you must have had internal discussions?

This question, I think, is legitimate from the point of view of the general public. I want to say this very clearly. Normally when you have a large collaboration and you have a new paper there is no big discussion in the sense that all people eligible to sign the paper automatically sign it and that's it, although, as you know very well, making one specific analysis is always the work of about 20 per cent. And the remaining 80 per cent gets a different degree of confidence because it includes people who do side analysis, marginal work and even some people who do nothing or very little. This is the social system [of large collaborations] and it is like a normal spectrum.

When we came out with this result, the rules were the same. There was a restricted number of people working on this, not as small as one and not as big as hundred. So, given the potential

impact of the result, as one responsible for the collaboration, I asked a different kind of consensus. Not by default but I asked each individual physicist in the collaboration if they agreed to sign. Only if they tell me "I want to sign", I would use their name [in the authorship]. This was my approach.

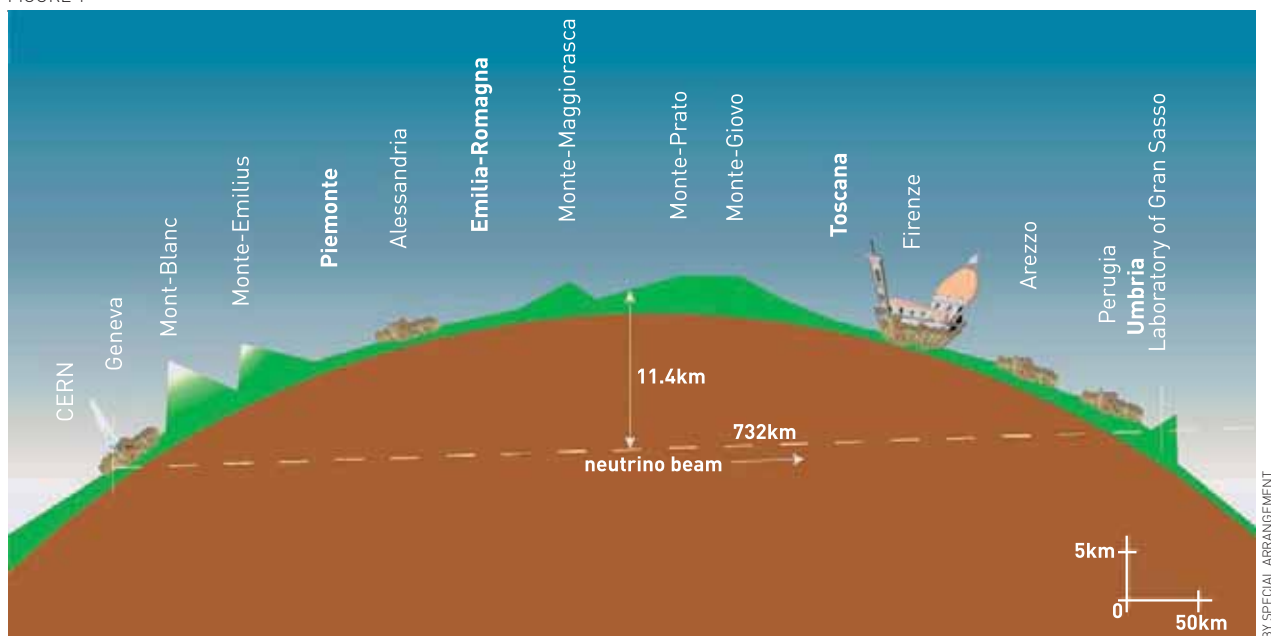
It is clear that if you use a drastic approach like this, you can get drastic answers. If you do some action, there is a reaction. Therefore, some people who would have [otherwise] signed, under this specific request, said different things. Some said, "I didn't grasp it" or "I did very little" or "I don't feel engaged" and some others said, "Ah! This is very nice, but unfortunately, I am not aware of all the details." Some even said, "This is too shocking. This cannot be true. I don't like." Very frankly, this is not a physicist's approach but I respect it. So, at the end, about 10 out of a total of 170 didn't sign the first preprint. So I consider this completely physiological but I worked on that personally as spokesperson. I think this was successful because at the end I managed to pull in some of the most critical people because they got more informed. They put their heads in this business and got a feel for it.

And, certainly, the bunched beam was an asset to convince even the most critical people. To my mind just one person who signed the first for some reason didn't sign the second. Maybe because [the person] didn't feel confident. I would be worried as a person responsible for the collaboration if only 10 per cent of the people had signed. I would have failed personally. So I am quite satisfied.

SYSTEMATIC UNCERTAINTIES

After your paper was published, there was criticism that there could have been sources of error, both systematic and statistical, which the experiment did not estimate correctly. Can you explain what the possible systematic errors were, how they were estimated and what its size is. Similarly, what are the kind of

FIGURE 1



BY SPECIAL ARRANGEMENT

THE OPERA EXPERIMENT is basically a time-of-flight experiment, which uses a neutrino beam called the CERN Neutrinos to Gran Sasso, or CNGS, beam, which is shot through the earth to be received across a baseline of 732 km at Gran Sasso and the neutrino velocity is given by the ratio of precisely measured distance and time of flight.

possible statistical errors, how were they estimated and what is its size?

If you restrict to the first measurement, it was a statistical measurement based on the statistics of 15,000 events. Therefore, since we made standard maximum likelihood estimation, we can infer the statistical error from the statistics of 15,000 events. In fact, it was a rather small statistical error. More important, as you say, is the evaluation of systematic uncertainties.

There are two types of systematic uncertainties: those that you know and you can estimate and those that, unfortunately, you do not know and you cannot estimate at all. So if a problem could be identified to explain our result – and it will be very good in this case – this is likely to be attributed to unknown systematic errors or to effects that we did not consider at all. As far as known systematic errors and their evaluation are concerned, I think we did quite a careful job.

We had a list of about 15 or so possible sources of systematic uncertainties which were all evaluated and they were such that if you combine all of them together you get an overall systematic uncertainty that is still only at a level of 10 ns, which is quite small. And I should say that reducing the systematic uncertainty is the most

challenging and difficult job in a high-accuracy experiment.

One of the criticisms has been that the timing measurements of the experiment were such that there could be uncertainties in the exact timing of the instant at which a neutrino is produced and the instant of actual detection. How were these errors reduced? These involve receiving GPS signals and transmitting them to the instruments, etc.

This procedure that we used is somewhat new for the community of particle physicists but is certainly new as far as other applications are concerned. This use of GPS systems is a sophisticated technique for us but not for specialists. Everybody knows that GPS receivers allow every car to know its exact position in case of a traffic jam and usually you get a very accurate position. Keep in mind the effect we are measuring involve the neutrinos and the GPS measurement gets transformed into an uncertainty of about 20 cm, which is already quite a lot with the standard GPS receivers. Normally the position measurements are much better than that. As I said, using GPS in an advanced mode is a new method for us. So we did not use the standard

car GPS receivers but sophisticated electronic devices, and we also paid great attention to the synchronisation of the clocks – we used caesium clocks, atomic clocks everywhere. Combining all these techniques, at the end we were able to reach this very high accuracy. But I want to stress that the geodesy community and metrology community are really professional. The methods we use are rather for them standard and well-understood methods. So I think the criticism is always accepted and always positive, but I should say that since this is not our field we very much trust the confidence of these experts and we basically used methods that for them constitute daily work.

So would you say that you have been able to answer all the criticism so far?

I think the criticism can also be divided into two kinds. On the one hand is the criticism on the technology aspects. There are some good critics who make those criticisms and there are also the general public or people who are less experienced. So, in this case, we have a broad spectrum of criticism; some are very nasty, which we are able to answer, and also some really trivial, which we can safely account for. The other kind of criticisms is rather

er theoretical. There are few people who would argue correctly that for some theoretical argument, this effect of superluminality should not happen. This is fine. I respect these arguments very much. Actually this is one of the sources of our continuous concern. We always say that we have to find a trivial explanation or mistake or something. But there is something which has more to do with ethics, the ontology of our work. And that is, no theory can ever disprove an experimental fact. The best theory is worse than the worst data. New data can disprove an old theory but not the other way around. This is what our scientific method is based upon. But I would say, unfortunately or fortunately I don't know, this class of arguments can never disprove an experimental result.

Some of these theoretical arguments relate to possible observation of effects arising from faster-than-light propagation, like the Cohen-Glashow argument of Ėerenkov radiation due to superluminal neutrinos. But using the same beam the other experiment, ICARUS, did not see any Ėerenkov effect. Does that disturb you in any way?

Our correct approach is to be calm and to do our job without many perturbations. On the other hand, this measurement of the non-existence of such Ėerenkov emission is rather trivial because we also do that. We don't need another experiment. We also don't see this. And, moreover, I should say that it is known knowledge from the 1970s that if this Ėerenkov radiation events existed they would have been noticed then.

So with all the respect for the work of our colleagues, I think this does not add anything spectacular. It is completely known. It is clear that we don't see this effect. But still this is based on fully respectable and solid theory.

And this could question the results but never disprove. So we have to go ahead. The goal is to understand our results, whether it is correct or wrong, and only other measurements can do that.

Similar is the other argument made by Ramnath Cowsik and others that the energy spectrum of neutrinos that you observe is not commensurate with pion decay and kaon decay kinematics if the neutrinos are superluminal. From your own perspective as an experimentalist, you would have done many experiments relating to these particles earlier. Would you like to redo any of those experiments to see a similar effect if it exists?

I see what you mean. I didn't think about it actually. I think it would be great to find past experiments, revise [earlier] experiments which could shed light on this. Since you asked me, I would need some time to think about it, but it is a good approach, I think.

Again from the perspective of an experimentalist, what kind of explanation would be satisfying to you?

Satisfying is a nice word. Since I like football, what I would like to say is you play to win and sometimes you win and you get three points and sometimes you lose and you get zero points. Some other times you make 0-0, 1-1. Well, 0-0 or 1-1 would be satisfactory in this case. If I have to dream of a solution to this story, it would be the most wonderful thing to happen – finding new physics, new effects – but I would still be happy if the explanation of this effect would not be a trivial thing but a nasty one. This is a challenge for us. So there is every kind of possibility – a mistake or a discovery and also something in between. There is a chance that you fall in the grey zone where this could be understood in terms of known physics without invoking trivial mistakes.

The leader of your group is said to have remarked that the idea of actually measuring the neutrino velocity was prompted by the earlier observation in 2007, though not conclusive, by the experiment MINOS at Fermilab, which observed a similar excess over the speed of light, c ?

No. Not really. When OPERA's da-

ta acquisition system was designed, already the responsible persons, in particular Dario Autiero who was leading the data analysis and gave the seminar at CERN, overdesigned the system in order to provide this kind of measurement. And this happened quite early, much before the measurement of MINOS. But this is not a real issue. What matters is when you make measurement and what results you get.

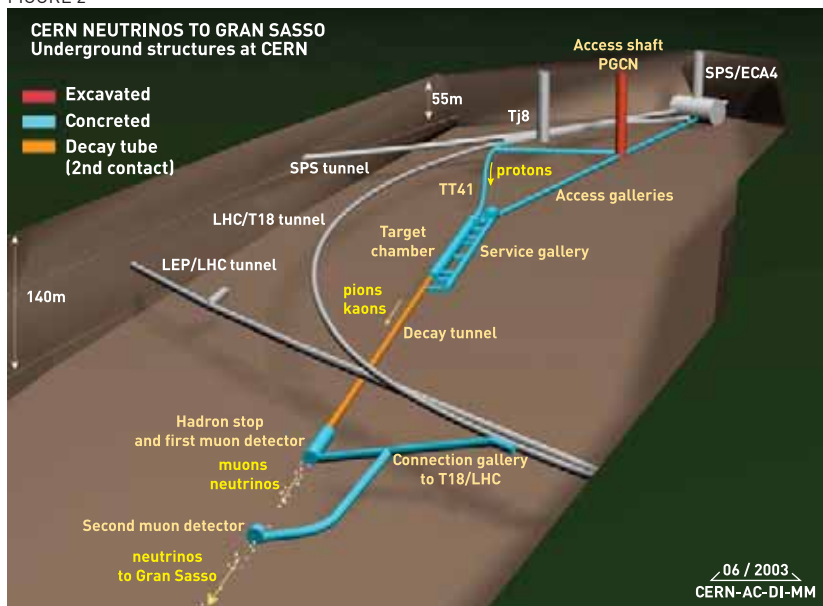
Anyway, MINOS did observe some excess over c . But it was not statistically conclusive. In what respects was OPERA designed to be much more accurate than MINOS?

This, I think, is our small merit in the sense in the last years when the experiment was conducted, starting in 2008, and during the preparation of the experiment in 2006, which was before the MINOS result, the neutrino velocity experiment was designed to be very accurate. And the goal was to have an accuracy at the end to be a factor 10 better than MINOS. And this is confirmed by the result we have; ours is a 6-sigma result and MINOS was 1.8. This is probably something that we are most proud of. As I explained before, this is a combination of many things: high statistics, accurate calibration, precise timing, overdesigning of the OPERA data acquisition system, etc.

Tritium beta decay measurements in the 1990s gave negative values for the square of neutrino masses, which would be the case if neutrinos were tachyons. Is there any way of saying that the superluminal neutrino that your experiment sees is not tachyonic?

Well, there are theorists who claimed many years ago that the muon-neutrino was a tachyon. So this is not new. Also, colleagues are showing me their speculations saying that this is a proof that neutrino from muon is a tachyon. I don't have any argument to say yes or no. For me this phenomenology of neutrinos is still not completely defined. We have to understand whether we have energy

FIGURE 2



SCHEMATIC OF UNDERGROUND structures associated with the CNGS beam at the CERN end including the muon detectors.

dependence, whether we have particle-antiparticle dependence [dependence on whether it is a neutrino or an antineutrino], and so many things. In addition, we need all the checks from the experimental point of view, looking for systematics, etc. Once all this is finished, we could take up more advanced physics-oriented studies, not detector-oriented. Now we are working rather modestly on the search for systematic effect linked to the experiment. Later on we could start to elaborate upon these effects, energy dependence and other things. If we get confidence in our measurements then we can do something more. But I wouldn't go too fast.

What kind of immediate improvements in your experiment do you foresee purely in terms of instrumental and measurement techniques?

This is a good question. After the bunched beam that we experimented with last November, now we have a shut-down period. During this shut-down we are working on several additional points. One is the possibility of using the other part of the detector, namely the RPCs [Resistive Plate Chambers]. The RPCs were not used in the main analysis and we will try to use it to add new data or to do cross-checks. The other thing is we want to

use and exploit the two muon detectors in the muon pits for intermediate measurements [see Fig.2]. This is in progress.

Then we are also improving the time resolution of our data acquisition system. We have a jitter which is particularly more when we use a bunched beam, which we want to reduce, and that has just begun. We are then redoing all the measurements, all the delays and we want to repeat the geodesy as well and we want to use again the standard beam and the bunched beam, as well as neutrino-antineutrino run with the bunched beam. So it is quite a heavy schedule and I count that by 2012-end we will know much more.

So when can we expect the new round of results?

I think 2012 will be a very important year. We will get a lot of new measurements, new data, and hopefully new independent checks. So I would be happy to give an interview around December 2012 to you.

Among the other experiments that can possibly do a check on superluminal neutrinos, MINOS in the U.S. in its new phase or T2K in Japan, which do you think has the potential to check your results more accurately?

I think MINOS certainly has great potential, especially after their refurbishment and upgrade.

They did nice measurements in 2007 and now certainly they have to do more. They have improved and upgraded their detector. We really look forward to seeing their results. I hope it will be soon and this will be an important tile of the mosaic. Even if they would confirm our result, I still will not stop working on the assessment of our result. You know nature is kind with us but sometimes it is very difficult to understand its rules. So if even two experiments give the same results, it would not make me happier. We would only be more committed to understand what we are doing. But certainly MINOS has the potential.

In addition, the other experiment at Gran Sasso [ICARUS] has set itself the goal of making the measurement. But you will certainly understand that it will have some potential systematics, related to the beam or geodesy or other things, common with us. The degree of independence is higher for MINOS.

One of the points made was that the arrival time of electron-neutrinos from supernova 1987A also contradicts superluminal neutrinos. From that perspective it has been argued that the superluminal propagation is perhaps confined only to the muon sector and perhaps does not extend to the electron sector. Is there a possibility of using a similar beam from CERN across the same baseline with electron-neutrinos? Is there a similar experiment one can devise using electron-neutrinos?

That would be a great opportunity certainly. And, in fact, digging for electron-neutrino events which are contaminating the muon-neutrino CERN beam at the level of a few per cent is probably a mission impossible. As you say, the best option would be to have an electron-neutrino beam. Now you know that we do not have great freedom in building a neutrino beam. We have to start with protons, make pions and kaons and they decay into muons and muon-neutrinos. In order to make an electron-neutrino beam, the only idea that is somewhat feasible is using

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beta [decay] beams. The time scale for building a beta beam is at least 10 years. Also, getting high-energy beta beams will be even more difficult. I do not see a near-time possibility of such a measurement. I agree it would be very interesting.

If superluminal propagation of neutrinos is true, it shakes the very foundations of physics, particularly two of its pillars. One, the special theory of relativity which has been verified to great accuracy in various processes with photons, though not with neutrinos, and the other is the aspect of particle kinematics arising from the conservation of energy. So how do you see yourself reconciling your results with physics as we know it today impacting your other experiments in the future – for example, when you apply special relativistic time dilation to decay life times of particles?

I myself proposed to my colleagues the recipe or the rules: we should not elaborate on questions like, "If this is true what would you do." I would like to respect our decision. Still, I think there is no way out. All of special relativity is working perfectly. Whatever be the outcome of this [experiment], I am sure we will keep using special relativity equations to make our accelerators working and our experiments meaningful. So there is no point talking about it. So whatever new [physics] would come – I don't want to elaborate on that – it is clear that we will continue doing in the future what we are doing now. We will not change our equations or formulae for calculating processes or working with accelerators. So there must be something else.

As an experimentalist, what have been the key technological challenges that you faced in running this experiment?

You learnt that the leitmotif of our measurement is accuracy. Never say this is a small correction. But say all the time, let's make this, let's do that. If you want to work with nanoseconds and centimetres over such times and such

distances you need to not neglect anything. Maybe this is a lesson that we learnt. Try to be even tedious. Try to do the best you can. Absolutely. Don't say that this or that can be done later on. Don't say we need not do this. You better do everything you can.

DETECTORS OF THE FUTURE

Besides the OPERA experiment, you are into designing new detectors for other experiments. What kind of new detectors are you working on?

Thank you for your question, which allows me to advertise my favourite future detector technology, which is liquid argon TPCs [Time Projection Chambers]. There are a few groups in the world working on this, in Europe, the U.S. and Japan. I am working with my colleagues and I have the pleasure of working with this technique as I think it is a major breakthrough for future neutrino experiments. It is an extremely powerful technique. It is in a phase, not really R&D, but advanced R&D. We already have a detector that has been built and others that are going to be built in the next few years. And the dream is to build tens of kiloton detectors for large observatories of the future; maybe even for the INO [India-based Neutrino Observatory]. Why not? It will be a dream to build a liquid argon detector for the INO in India. This is certainly the thing that is challenging me personally, and my group is working on this technology. I am really in love with this technique.

So do you think instead of using emulsion chambers you could use liquid argon detectors for the OPERA experiment?

I think OPERA was well designed and use of emulsions was the best choice at that time. Unfortunately, OPERA is only 1.3 kT. Now, if you want to build next-generation neutrino observatories you need at least 20 kT detectors or even 100 kT. You have to go for new techniques, new scale, new technique. And liquid argon, I think, is the best. ☐