Trivia

About the nature of things

Pedro Castro Caldas

Foreword by Pedro Seixas Vale

FULLCOVER
EDITIONS

MDS Group
Global
Insurance & Risk
Consultants

Pedro Castro Caldas

Pedro Castro Caldas was born in Lisbon in 1950. He has a degree in Mechanical Engineering from the Instituto Superior Técnico de Lisboa (IST) and complementary training in Project Management in Switzerland.

He worked as project manager in Mague´s Energy Division until 1987 when he joined the insurance industry as Technical Director of Non-Life Insurance and Reinsurance at Tranquilidade and at HDI Mutual Insurance Company. From 1993 to 2013 Pedro Castro Caldas worked at Ocidental Seguros and other Millennium bcp bank insurance partnerships.

From 1994 to 2004 he was a member of the Risk Management Group of the Pan-European insurance Group EUREKO, where he collaborated on and was responsible for several large insurance and reinsurance projects (public and private partnerships) in property and engineering risks such as the Metro do Porto network.

Up until 2012 he coordinated several Technical Commissions at the Portuguese Association of Insurers (APS).

Since 2013 he has devoted his time to Risk Management study and consultancy.

Author
Pedro Castro Caldas

Publisher
MDS Corretor de Seguros

Place of Publication
Porto

Date of Publication
2016

FULLCOVER Collection N.º1

Design
Studio Dobra

Illustrations
Carlos Pinheiro

Printing & Finishing
Empresa Diário do Porto, lda

Legal Deposit
419238/16

ISBN
978-989-99745-0-0

Trivia

About the nature of things

Trivia brings together the chronicles of Pedro Castro Caldas published in *FULLCOVER* magazine – an innovative publication from MDS Group that intends to create a culture of risk through the sharing of knowledge.

Edited by our own team since 2009, it is distributed in over 90 countries, and highlights international developments in the insurance, broking and risk management industries, from the perspective of renowned experts.

With the release of this collection, we give well-deserved autonomy to the chronicles of Pedro Castro Caldas, published in *FULLCOVER* since its first issue. From their unique character, combining a historical and contemporary perspective on risk, the articles collected here manage to lead us, through insightful vision and canny humour, to reflect more broadly on the current issues in the industry.

It is not difficult to speak about Pedro Castro Caldas, because it's easy to speak about someone with his personal and professional qualities.

My contact with Pedro Castro Caldas has mostly been in recent years, when as Chairman of the Board of Directors of the Portuguese Association of Insurers (APS) I have followed the work he has been doing as Chairman or member of the various Technical Committees that are part of APS.

From my personal viewpoint, Pedro Castro Caldas is an example of upbringing, serenity, joviality and sense of humour. His model of determined involvement in the pursuit of his self-set goals makes him a role model from a professional point of view. And his determination is complemented by his wealth of general knowledge about the insurance industry, something which has become ever scarcer and, I would say, has all but disappeared in certain areas.

He deserves a huge thank you on my part, a thank you that I will repeat whenever, wherever and on every occasion that our paths cross. I know very few people capable of drawing such unanimous recognition of their personal and human qualities.

Since it is symbolic, I would like to highlight a project carried out at his proposal and which is hugely relevant for the insurance system and the country: the so-called "CIRAC", a map of flooding and risk in scenarios of climate change.

This scientific undertaking, carried out between 2011 and 2014 in collaboration with the University of Lisbon's Faculty of Science, made it possible to conduct an in-depth analysis of the risk of flooding in Portugal and his contributions as an insurer were of considerable importance for the overall findings of the study. But I would also highlight his extremely important knowledge in other fields in terms of the management of construction, terrorism and environmental risks.

His recently-published compilation of texts is a living testimony to his knowledge about the insurance industry. And it comes with the additional benefit of some unusual historical content. We all hope that he will continue to delight and educate us for many years to come.

Pedro Seixas Vale
President of APS, April 2008 to June 2016

The Middle Kingdom strikes back

History records it that Chinese authorities, in the year 1557, authorized the Portuguese to settle in Macau so that they could fight the pirates that pillaged extensive areas in the Guangzhou (Canton) region, especially on the Pearl River Delta. This allowed the Portuguese to have a restricted access to the Chinese market whose economy was closed to other trading nations. This situation wetted the "appetite" of other trading nations throughout the centuries. The British, already settled in India, eyed this massive new market of millions eagerly.

However, the British did not have easy access to China. At this time China saw itself as the centre of the universe and proclaimed itself as the Middle Kingdom. The British envoy, Lord McCartney, was dispatched in the year 1793 to Beijing with an array of British industrial products looking to be exported to China. He refused to bow to the Chinese emperor – unlike the Portuguese who wisely did bow their heads for the sake of their national interests and trade. Lord McCartney was expelled, and the following message from Emperor Qianlong to British King George III quickly followed: "As your ambassador can see for himself, we have everything. I do not value alien or ingenious objects and we have no use for the manufacture of your country."

When the British were not able to expand trade with the Chinese through the sale of "alien or ingenious and useless objects" of British manufacture, the British adopted an aggressive marketing strategy. Opium grown in India was illegally flooded into the Chinese market and its population. In receipt, the British took gold and silver and highly prized Chinese merchandise such as silk, tea and porcelain, which were then very sought-after in Europe.

The devastating consequences of the opium consumption began to threaten the social and financial stability of the country, including State security and general defence as opium consumption among soldiers and officers was so widespread. China was hemorrhaging masses of its assets for the purchase of opium "imports".

In order to fight this situation, the Beijing government forbade the traffic of opium[1], a prohibition that would not be accepted by the British, who maintained exclusivity in the trading operations at the Guangzhou port since the year 1830. The British easily brought opium shipments from India and these shipments represented half of all British exports to China.

The Portuguese of Macau were not able to defend the Chinese from these "modern pirates of the 19th century". The Chinese authorities then appealed for a "very abusive" destruction of a British opium shipment in Guangzhou harbour. Queen Victoria and her government were affronted by this unilateral

1 In 1839, a Chinese minister reported to the Emperor the situation as follows: *"Majesty, the silver price is falling because of the payment for the drug. Soon, your empire will go bankrupt. How long will we tolerate this game with the devil for? Soon, we will not have any currency to pay for weapons and ammunition. Worse, there will be no soldiers able to handle a gun because all of them will be addicted."*

move against its trading interests. They decided to "intervene with the market", ordering the British fleet to sink a large number of Chinese war junks, outclassed by British ships. The British besieged Guangzhou, bombarded Nanking and blocked road access to Beijing. This episode is known as the 1st Opium War, which resulted in the defeat of the Chinese in 1842, and the signing of the *Treaty of Nanking*, which obliged China to open five ports for the British opium trade. They were also obliged to pay heavy war indemnities and hand over Hong Kong to the British, as a guarantee of opium trading rights, a British warship was anchored at each of these five ports.

Some years later, in 1857, the British, this time allied with other western nations, angered by Chinese authorities who had searched the British pavilion boat named *Arrow* decided to once again "intervene with the market". The Chinese Emperor refused to accept a new "market openness" treaty; which would give access to eleven new Chinese ports for the opium trade with the Western world, and ensure freedom of movement to European traffickers "legitimately" looking to improve their distribution channels. Beijing was subsequently occupied and all western demands were accepted by means of the *Beijing Convention* of 1860, and China agreed to create a Ministry of Foreign Affairs in order to guarantee a "civilised dialogue" with western missions settled in the capitol. They wanted to monitor the Chinese economy to ensure a "fair remuneration" of "legitimate interests" of foreign investments associated with the opium trade. This was the outcome of the 2nd Opium War. It is noteworthy the Chinese authorities ceased using term "barbarian" they had previously used in governmental documents to describe Westerners.

China indeed has a long memory and it is very unlikely that it has forgotten the lessons and offenses of the past.[2]

Contemporary, single Partisan China, grown stronger by globalisation, can now "dismiss" any foreign war vessels at its ports wishing to monitor any commercial and financial flows. China has made a decision to adopt two systems: a "market economy", acknowledging the temporary need to import western "alien or ingenious objects" for domestic consumption, which triggered the insatiable and blind appetite of Westerners for the Chinese "emerging market". The second system is a "planned economy" to utilize low labour costs and that display less rigorous concerns for quality and standards. Through these exported replicas or bric-a-brac, the Chinese are able, through a network of "points of sale", otherwise known as "Chinese Shops", to offer these goods on street corners of Europe and worldwide.

Tremendous Chinese exports have allowed the government to amass very large currency reserves, giving it the status of a "reference financial centre". Speculation and leveraged buyouts of foreign assets, with or without support of the Chinese government have replicated the models of other financial centres on a larger scale, resulting in the accumulation of significant debt manifested in lavish infrastructure costs, some of doubtful interest and worth. This once-reference economy is now involved in artificially keeping "zombie"

2 The Portuguese who got Macau in the 16th century in exchange for services rendered, know that quite well, when they found that the Chinese demanded the British to hand back Hong Kong in 1997, conquered in the 19th century by force and humiliation in 1842, and only two years after it, they demanded the Portuguese to return Macau.

companies, funded by the government, afloat that may well be "drowned" by toxic assets, defined as "too large to fail".

If in the 19th century, Westerners had imposed on the Chinese an "open market" model that was based on the free trade of opium, as creating an illusory "market" will likely end with a painful hangover. Where there was a once chimeric conquest of the Chinese market, the Chinese now trade freely in open economies. "Westerners" should not complain about a market illusion they created, because a substantial hangover may now await them. Caught up in a whirlwind of global economy growth, often based on toxic assets, or illusory realities, it could be said that the Middle Kingdom, crushed and offended in the 19th century, strikes back.

The iceberg and the Titanic

Published in FULLCOVER 1

In the dictionary, "commonplace is an expression derived from the Latin locus communis, in modern times taking on the pejorative meaning of a trivial, banal, frequently repeated expression, whereas in classical rhetoric the concept of commonplace had a literary, discursive validity, which modern use rejects, of an association of ideas (necessarily already familiar to the public, as otherwise the desired persuasion would be fruitless) making it possible to guide the interlocutor to understand (and be convinced by) the arguments"[3].

It would never cross my mind to try to adopt the "classical rhetoric" of "commonplace" by attempting to give literary content to the brief remarks I am occasionally asked to make in this column, or to set out to "guide" or "persuade" the reader. This will not be my purpose. What I propose is rhetoric of "modern times", i.e. a "trivial, banal, frequently repeated" theory, but one which in many instances is little practised.

"Commonplaces" are the daily practices, whether of people or organisations, of being driven by conduct that conforms neither with the best practices of behaviour nor with the safety measures designed to prevent accidents. Now if these random risk factors are properly understood and previously assessed and quantified, this understanding, assessment and

3 CEIA, Carlos – E-dictionary of literary terms.

quantification, albeit empirical, can contribute to the containment or non-occurrence of these accidents or at least to mitigating their consequences.

It is in this context that the allegory of the "Iceberg" commonly appears, in which its submerged "unknown" part represents the real risk to shipping, so that for centuries it has been good practice for ships to avoid blocks of ice even if this means they have to change course, no matter how safe and fast they are. In fact it was when she neglected these good practices that the Titanic, albeit cutting-edge technically and safety-wise, sank with most of her passengers and crew. As we know, she did not even have the necessary or sufficient life-saving equipment, although until nearly the end of the tragedy there reigned an air of great confidence in her invulnerability in the first-class area when the third-class area was already flooded – as an illustrious conference speaker recently pointed out, by way of an allegory, referring to the crisis we are now experiencing. The lessons to be drawn from the "Iceberg" and the "Titanic" are that there are no "perfect organisations" or "first-class optimisms" that remain forever immune or indifferent to the consequences either of a lack of contingency planning or of attitudes and behaviour that deviate from the good practices of constantly quantifying "known" risk factors and assessing and understanding "unknown" risks, or from making assessments in order to render the goals and hope for the health and future survival of people and organisations sustainable.

In the present situation of a crisis of values, the challenge consists precisely in identifying the insufficiencies resulting from the traditional management of organisations, which are all the more evident as the behaviour deviating from good practices that led to the current uncertainties and their consequences are being revealed, and the necessary remedial measures are being determined by establishing and adopting the appropriate procedures to control the acceptable limits of risks for organisations and transferring to insurance companies or other reliable financial protection mechanisms all or at least part of the "submerged" risks that exceed the level of tolerance considered acceptable for the sustainability of organisations.

Adapting and adopting the famous slogan, it's "risk management", stupid!

The day after

Published in FULLCOVER 2

November 1, 1755:
"In the year of Our Lord 1755, on the first day of November, a Saturday, almost ten of the clock, the sky unperturbed and the ocean stilled, here came a deep awful rumble with the tremor: The land where Lisbon sits was atremble, and in no time shook this way and that. At first the quake was negligible. Yet it grew and it grew; first went the cracking roof beams and floors, then the stucco came undone; with great commotion arches, walls and towers collapsed..."

Thus Father António de Figueiredo describes the catastrophe that befell the city and other parts of the country in his written comment on the earthquake and fire that laid waste to Lisbon. Estimates point to a number of deaths from 15,000 to 70,000. Father António later points out that, soon after the quake, "the generosity and munificence of our most merciful monarch had nuns lodged in secluded locations, had ruined monasteries repaired, and set help in the form of diverse timbers, trusses and money (...) sending for soldiers to clear the streets and alleys and topple the remaining walls of broken houses (...)." Of the 20,000 houses then extant in Lisbon, only 3,000 were fit for habitation after the quake. 32 churches, 60 chapels, 31 monasteries, 15 convents and 53 palaces were razed to the ground or damaged beyond repair.

November 22, 2007:
"According to the information available, a violent explosion took place around 6.45 PM at a residential building in the Alfonso Paiva Square, Setúbal. The top three floors were completely destroyed and the entire building sustained damage. The explosion caused three wounded in critical condition and injured another 37. Over the following 6 months, the building underwent structural containment work and was assessed by experts to determine whether the building is still amenable to reconstruction.

Faced with the need to speed up coordination of personnel, materiel and financial resources to recover the estate, insurers set aside the proportional rule as they had encountered a situation dominated by infrainsurance, namely where the recovery of the common parts of the building were concerned" (Luso-Roux report).

The connection between these two events — granted, they are dissimilar in scope and consequence — is that disasters affecting people and property can and will happen. The question is, are we ready to face the day after? Reconstruction, be it twenty thousand homes, or just one?

You could argue that the munificence of monarchs that send assistance, or the generosity of insurers that provide indemnity without regard to proportion, are ever-present means of salvation, at least in Portugal. However, the Setúbal case clearly demonstrates that financial resources are not always allocated in the best possible manner when it comes to day-after reconstruction, and that these resources could be spread too thin. Under the current horizontal property system, the sum total of insured capitals pertaining to fractions is insufficient to cover reconstruction costs for the common parts of damaged buildings, whether the cause is an isolated explosion or a massive earthquake.

Hence the particular relevance of modelling and securitizing catastrophic risk as priorities in the insurance market, whatever your perspective may be: as an insurer who must rely on reinsurer capabilities; as an agent drawing on pooled resources or financial reinsurance facilities, or alternative solutions not necessarily limited to the reinsurance market. Indeed there should be more than one way to resolve claims derived from extraordinary events where traditional insurance packages prove inadequate to day-after needs.

Nearly every European country has its own catastrophic risk model. Only a few implement mandatory coverage of certain risks. Others preserve optional solutions, such as the US and Japan. In Spain, there is a “Consorcio de Compensación de Seguros” (Insurance Compensation Consortium), which deals with seismic phenomena. It is a staterun organization operating under the same legal framework as private insurers and relies on limitless financial collateral from the State whenever financial resources prove insufficient.

In France, property insurance must include coverage of seismic phenomena. There is a framework for state compensation: the “Caisse Centrale de Reassurance” is empowered to provide unlimited coverage.

Belgium implements mandatory “natural disaster” coverage in its optional fire hazard policies, and there is a national calamity fund, established in 1976, set to intervene whenever certain indemnity levels are overrun.

In Norway, fire hazard policies must cover seismic phenomena. The national Norwegian fund for relief of natural damage was created in 1961 to compensate for natural hazards.

In Turkey, seismic phenomena must be covered through the Turkish mandatory insurance pool, a state-run organization which manages risk mostly through international reinsurance.

Germany implemented an "insurance extension to damage from natural phenomena" in 1991. The available coverage presents several options to cover, among other hazards, seismic phenomena.

The US do not, as a rule, favour mandatory coverage, except in California, where insurers are legally compelled to offer earthquake coverage to anyone who takes out insurance on real estate. There is a state assistance scheme through a reinsurance mechanism made available by the California Earthquake Authority.

Japan does not implement mandatory earthquake coverage. Parliament has ruled on a maximum compensation amount pertaining to property insurance. The Japan Earthquake Reinsurance Co. was created in 1996 by all non-life insurers and it is this organization which, through reinsurance mechanisms, shares the burden of risk with the Japanese state.

In New Zealand, earthquake coverage has been mandatory since 1994 and all homeowners must be insured. There is a state earthquake commission which acts through a disaster response programme to attenuate and deal with the consequences of geological disasters.

Finally, in Portugal, the government was expected to consider a catastrophe fund over 2003/2004, to be implemented in 2007. It would initially be sustained by the State and afterwards financed by a levy on multi-risk property policy insurers. This fund would be an extra resource pool derived from insurers' business to face day-after reconstruction… because there may well be a day after.

THE EARTH RUMBLED

The 1755 quake fired the imagination of illustrators and engravers, who painted dire pictures of desolation, On that tragic Saturday, November 1, people were celebrating All Hallows. The first tremor came at 9.30 in the morning. Two others ensued and lasted a while longer. It is estimated that the quake reached 8.7 on the Richter scale. Most buildings in Lisbon could not withstand such force. Downtown Lisbon crumbled. The Santa Maria cathedral and the Opera house, jewels on the city's crown, were lost forever. A massive wave engulfed seagoing vessels and flooded the lower parts of town. After the water came fire. Accidents and arson brought about a blanket of fire that swept the ruined city, turning it into a hell-pit that would take days to cool down and put out. Thousands were left homeless. It is estimated that ten to thirty thousand people died in the catastrophe. However, some sources claim the death toll had reached 90,000. Reconstruction of the city is spearheaded by the Marquis of Pombal, Minister to King D. José, and it is based on an orthogonal plan. The minister also prepared a survey which he sent out to parish priests all over the country, to ascertain causes and effects of the quake. The survey included questions such as "Did you notice anything unusual about the ocean, wellsprings or river? Did the tide ebb first, or did it flow? Did the Earth open up anywhere, and if it did open any troughs, what else did you notice? Have any new wellsprings gushed forth? Were there fires? If so, for how long? How much damage did they cause?" Priests were given a month to return their answers and asked to gather evidence from "intelligent" parishioners to clarify "doubts." This attempt to try and frame the quake scientifically is the reason why the Marquis of Pombal is named as a forerunner of seismology in Portugal.

Noah’s Ark – was it real?

Published in FULLCOVER 3

> "And I will cause it to rain upon the earth forty days and forty nights; and every living substance that I have made will I destroy from off the face of the earth."
>
> GENESIS 7:4

Over 270 accounts of a Great flood exist, told and retold over the ages, and each account marks the flood as the beginning of the civilization that tells the tale. In Judeo-Christian tradition, one of the best-known mentions of the flood is that of Noah's Ark, a ship built to preserve life on earth, to which the righteous Noah admitted a breeding couple of each animal species, there to weather the forty-day flood along with his family. God had passed judgment on the antediluvians, and decided to wipe their wickedness off the face of the earth by causing rain to fall upon it for forty days and nights, during which "[...] all flesh died that moved upon the earth [...] All in whose nostrils was the breath of life, of all that was in the dry land, died." (Genesis 7:21-2) "[A]nd Noah only remained alive, and they that were with him in the ark." (Genesis 7:23).

Side by side with these mythological allusions to punitive redemption through extreme weather events, science tells us the Earth's climate has changed over the millennia. During the last Ice Age, around 20,000 years ago, the mean surface temperature on Earth was 5 to 7°C lower than today's, and sea level was 100 to 120m below current levels. Some 8,000 years ago, a warm spell took hold, and the Sahara was blanketed by savannas. Later, during the Middle Ages, there was a new period of warmth followed by the "Little Ice Age", which, among other things, drove the Vikings from Greenland.

We've been enjoying an 8,000-year interglacial period, a "long summer" where the climate is stable and that may well have shaped the emergence and development of current civilizations. However, from the 20th century onwards, global mean temperatures have been rising anomalously — too steeply, too fast — and nobody's quite sure how much we really contribute to global warming, namely due to the emission of greenhouse gases (GHG).

A short time ago, an intense heat wave settled over Russia, causing massive fires. Intense rainfall in Pakistan brought about floods of unprecedented violence. Can these extreme events be ascribed to a common pattern in atmospheric circulation and be driven by the ongoing processes of global warming? Maybe, say scientists The Economist has quoted.

By means of computer simulation, we can now use existing climate models to predict future weather scenarios and assess degrees of vulnerability to climate change throughout the world, along with impacts to social and natural systems, according to geographical, environmental and economic parameters.

In Africa, a high rate of vulnerability is expected. Agriculture on the continent is hardly more than subsistence farming; as rainfall diminishes, deserts expand. In Asia, rising sea levels and an increase in the frequency of cyclones will affect and displace coastal and lowland settlers in densely-populated tropical areas. In South America, as in other regions, more frequent floods and droughts, added to the effects of glacier withdrawal, will produce negative impacts on water resources, agriculture and biodiversity. North America, mostly thanks to greater adaptability, is not as vulnerable. Some tracts in northern Canada may even become arable land.

Regarding Europe, it is the southern areas that will suffer the most from diminished rainfall, long dry spells and a notorious loss of biological diversity. In the Iberian Peninsula alone, annual rainfall could drop 40% and summers may become, on average, 6°C hotter as the century marches on. Northern European countries should be subject to more rainfall, following the trend observed over the past few years.

Given these worldwide changes, Europe especially is to witness more and more extreme weather events and concomitant impact on European economies. There will be more floods and storms, more brush fires, and public health will be strained by heat waves, bad quality drinking water, inadequate foods and air pollution. As a response to these extreme scenarios, mitigation and adaptation measures adopted under forward-looking EU and international conventions become especially relevant. Not only do we have measures to curtail GHG emissions, but, where floods are concerned, it is of the essence to dampen the negative contribution of certain human activities toward the greater likelihood of floods and their catastrophic toll, stemming mostly from construction projects on floodplains and diminished soil water retention due to the use and impermeabilization of soil.

So lawmakers and regulation authorities recognize that it is not only possible but also desirable to reduce risk associated with climate change and especially with flooding. Floods take a heavy toll on human life and health, on the environment and property. Risk reduction may be achieved through the integrated management of river basins so as to address flood-related risk in a concerted manner.

This has been a concern among insurers and reinsurers who, working alongside relevant authorities, have advocated risk assessment. Their efforts demonstrate that we need to draw up risk charts detailing risks of coastal and riverine flooding if we are to manage and transfer risk at all. At the local and province level, zoning needs to be reassessed wherever the risk is greatest; finally, we must advocate better building codes.

One can but wonder: did Noah really built the Ark, ensuring the survival of man and beast, or is the biblical tale only an allegory on the salvation of the righteous?

It remains to be seen whether those now living will manage their future with both feet firmly planted on the ground, building their own arks to salvage and redeem what they can from the “wicked ways” of human intervention. I firmly believe that, if they go about it sensibly and systematically, there are and will be sustainable contingency solutions and quantifiable, verified risk transfer schemes.

Piracy, an ancient emerging market

Published in FULLCOVER 4

The Maniots, one of Greece's most warlike peoples, descend directly from the Spartans of old. Since the dawn of modern times until the mid-19th century, the Maniots have gained a reputation as pirates. They saw piracy as a legitimate means to preserve their sovereignty. Also, because Maniot land is not very fertile, people turned to piracy as a source of income. Although they prayed mostly on Ottomans, Maniot pirates would go after Christian ships on occasion.

Now that we live in a globalized world and imperial hegemony is a thing of the past, the emergence of new failed states has led to the increase and diversification of piracy throughout the world. Modern pirates rely on precise logistics, efficient support bases and highly profitable business models.

The International Maritime Bureau (IMB) 2011 Report states that piracy is on the rise, pirates tend to be heavily armed, and they grow bold and violent.

More than half of all pirate attacks were undertaken by Somali pirates, who've been expanding their territorial reach all over the Indic, traveling as far as Kenya, Tanzania, the Comoros and Seychelles.

Attacks in the Gulf of Guinea, off Nigeria, have been reported, which points to an ongoing threat to shipping lanes along the West Coast of Africa and especially the alternative

Cape seaway. In the Far East, the straits of Singapore, Malaysia and Indonesia have also witnessed acts of piracy.

There's no 'optimistic scenario' in sight. That would entail continuing (and viable) military solutions: not only the deployment of international vessels as a deterrent and a platform for rescue operations, but also political and military interventions to stabilize failed states wherever support bases would be placed, which would allow the resumption of traditional economic activities, such as subsistence fishing on territorial waters monitored by legitimate means of defense.

A pessimistic scenario is far more likely. The phenomenon of piracy may contaminate other regions and, in all likelihood, ethnic/religious support networks are already in place here and there. Africa, the Middle and the Far East are brimming with potential recruits to the cause of piracy, people who would have entered Europe as illegal migrants but are increasingly turned back.

Taking Somalia for a case study, international intelligence experts have started with the concept of opportunity cost to undertake a cost-benefit analysis of piracy, establishing a 'Pirate Value Chain' that includes all the relevant stakeholders.

This isn't to say Somalia is unique in terms of piracy. If you take a look at the global market for piracy, you realize that piracy is bolstered by government bodies, financiers and sponsors, who may not always be easy to identify. Transportation companies also intervene as stakeholders – as is the case with carriers that dump toxic waste on territorial waters without sovereign defense, or international fishing fleets from Europe, Asia and America engaging in IUU ('illegal, undeclared, unregulated') activities. No less important is the assessment of returns obtained by stakeholders whose business it is to mitigate the costs of piracy: insurers who must adjust their risk rates and the coverage they provide; private security firms that offer deterrence & rescue solutions; as well as manufacturers or providers of prevention/deterrence and security technologies.

'Supply' grows as maritime trade and transportation picks up and markets expand through access to new geographic areas; access to profitable opportunities for illegal fishing and toxic waste disposal is on the increase as operators are driven from international waters or those under national sovereignty, due to environmental reasons and the intent to preserve biodiversity. 'Demand,' therefore, is likely to increase as new pirates join the market, drawn by the prospect of new victims – so new attacks will come.

The pirate trade, which has proven lucrative so far, needs more and more skilled workers. Not only people with military and naval training but also agents in key strategic positions, such as international maritime trade markets, where they can access insider information on shipping lanes, commodity and freight costs; also financial experts who specialize in secure money-laundering processes in order to access legitimate financial markets and then reinvest the profits of piracy to finance additional operations like recruitment and training of new pirates, as well as purchasing weaponry and seagoing vessels. However, this increasingly specialized labor will not remain available once the personal risks involved (death, maiming, disability, incarceration) outweigh the risk/opportunity cost inherent in not being a pirate.

In order to assess and mitigate the cost and risk in piracy, risk management models identifying the costs and benefits to all the stakeholders in the 'Pirate Value Chain' will let us define adequate and efficient corrective measures. Obviously, under the assumption that there are sovereign states willing and able to end this profitable offshore market run by transnational stakeholders, on both the 'supply' and 'demand' side of the equation. The 'demand' side includes shippers whose boats sail under flags of convenience, crewed by multi-ethnic, multinational forces. They haul cargo whose ownership, provenance and destination are often undetermined, or they engage in profitable illegal, undeclared, unregulated fishing and even worse things, like the transportation and disposal of toxic waste.

Are dinossaurs back?

Published in FULLCOVER 6

It is a widely accepted scientific theory that dinosaurs became extinct when a giant asteroid collided with the planet 65 million years ago. Their sheer size and the huge amount of food resources that these huge herbivore and carnivorous dinosaurs needed had led them to become the dominating species on the planet. The massive emissions of CO_2 and Methanol that resulted from the collision of the asteroid caused a global environmental disaster and the extinction of more than half of the species on Earth, those that were incapable of adapting. As a result other mammals started to emerge from the shadows and the foundations were laid for humans to become the new dominating species on the planet.

Back to the present day, and despite the still modest progress achieved at the various Climate Summits that have been held, it is a widely accepted scientific consensus that the greenhouse effect resulting from gas emissions is the cause of global warming and climate change and that a proactive and well thought out strategy to adapt to climate change must be sought to avoid the catastrophic effects on world populations and economies.

It is also a generally accepted fact that a reduction of emissions can be achieved by dramatically reducing the use of fossil fuels to produce electricity, for industry and in particular, for transport. Fossil fuels can be replaced by using renewable sources of energy replenished in nature, such as the sun, wind, water and geothermal resources, and by using biofuel from energy cultures such as corn, cereals, sugar beetroot, sugar cane and oil-rich plants.

Environmental agencies have argued that, in order to meet this accelerating demand for biofuels, and validated by the EU[4] environmental policy, amongst other initiatives, energy based cultures are usually characterized by single crop farming, and very often on land that was previously occupied by forests capable of absorbing high quantities of CO_2 from the atmosphere and whose emissions it is so important to keep down. This intensive farming also uses vast water resources and contributes to a decline in biodiversity. In addition, it contributes to a reduction in availability of farming products and leads to an increase in pricing, thus making it harder for populations to ensure balanced diets and their ability to meet basic survival requirements.

As such, to merely replace the use of fossil fuels with an equally intensive use of biofuels to produce energy for industry and transport, in order to reduce greenhouse gas emissions is not a viable alternative as it does not promote sustainable development. It does not promote a change in consumption patterns or an increase in energy efficiency. Inefficient use of energy and natural resources are at the heart of the problem as well as the poor use that is made of emissions and waste products.

4 The EU established an objective for renewable energy to increase the use of biofuels in the transport sector, as long as they were sourced in a sustainable manner.

Efficient use of renewable energy from natural resources should be complemented by a sustainable approach to maximizing the protection of natural resources and their appropriate transformation before they are returned to the environment. Particular focus should be placed on solid waste and gas emissions as a source of value[5] and not just as an irreversible source of damage to the environment.

It is clear that during economic downturns, even a small glimpse of a "green shoot"[6] can lead to some very aggressive and unscrupulous initiatives that fall back on an intense and inefficient use of resources and energy and increase the level of waste and pollution. This can lead to very short sighted views of the economy, which promote quick and lucrative results from trading toxic waste and emissions, going totally against the underlying principles behind the green economy and so called environmental industries.

Sustainable development aims to manage emerging risks, which could actually turn out to be opportunities and don't necessarily have to be giant leaps[7] towards the abyss.

5 Namely in RDF (Refuse Derived Fuel) production.

6 An analogy to spring shoots, an expression to indicate the end of a recession and used by Ben Bernanke, Chairman of the North American Federal Reserve in 2009 when a few fragile improvements were starting to appear in the context of the recession.

7 "The Great Leap" was a policy put into practice in 1958 aimed at making China a leading worldwide exporter, establishing almost impossible production targets. The Chinese regime still calls this a natural disaster. British Historian, Frank Dikottër claims that this was one of the largest mass murders in the history of humanity as the Great Leap Forward led to at least 45 million deaths in four years (In DIKÖTTER, Frank – *Mao's Great Famine: the History of China's Most Devastating Catastrophe, 1958-62*).

In conclusion, it is critical to embrace an Adaptation Strategy[8], to develop new communities of interests and sustainable businesses, which openly behave in a socially responsible[9] manner and are aligned with standards of corporate responsibility. Global interests must be shared and regulated according to the interests of the various stakeholders and according to legal regulation and international standards of conduct. This attitude will contribute to a more sustainable and efficient management of energy, the earth and water, waste management and protect biodiversity. Science and technology may also provide very important innovations to develop new solutions for humanity.

With the "beginning of the end" of business as usual, Transition Initiatives are required. New horizons and challenges are appearing in emerging risk coverage, and it is necessary to rethink the foundations of the insurance business, of sustainable risk evaluation, prevention and transferal in order to adapt to new adversities arising today and in the future. This will depend on the availability of information regarding catastrophe coverage, and on the ability to develop risk management models by using solutions and models adapted to the specific risk exposure of each situation.

Given this emergence, we are not very likely to see the return and survival of dinosaurs, mainly due to their appetite for available resources and their obvious difficulty in adapting

8 "Adaptation Strategy" is the name given by the EU to the phased adjustment to the impact of climate change, and which is complementary to member state actions in this field.

9 Guide to Social Responsability (ISO 26000/NP 4469-1) – an organization's responsibility for the environmental and social impact of its' decisions and operations, guided by an ethical and transparent code of conduct.

to behavioural change, which ultimately led to their extinction. It remains to be seen whether, due to either distraction or to repeated tolerance regarding unsustainable habits, we are contributing to the emergence from the shadows of new earthly creatures, somewhat more frugal, and which are better equipped to deal with the need to adapt and to become the next dominating species on the planet.

Risk management of the “pieces” trade

Published in FULLCOVER 7

“Piece” or “head” were the terms used from the 16th to the 19th century to describe each of the individuals in a lot of slaves, in what was known as the “diabolical trade”[10].

The business of buying, selling and exploiting “pieces” was governed throughout this intense trading period by a number of official regulations in order to make the productive cycle of these “tradable goods” more efficient by reducing the depreciation of the “merchandise” that resulted from the high losses experienced and consequent detriment to the economy.

In this way, efforts were made to reconcile the not always coincident interests of the various stakeholders, i.e. the “owners” of the merchandise, who needed “pieces” for their businesses and domestic service; the “shippers” of the merchandise whose interests lay in ensuring that the “pieces” arrived at their destination in a fit state to be sold for the best price; and the “masters” of the vessels, who wanted to make their maritime cargo as profitable as they could by packing as many “pieces” on board as possible, leading to lethal overloading of the transport vessels.

10 Term used by the 19th century abolitionist movements to describe the slave trade.

However, these regulations, which were, in fact, constantly being disregarded due to a lack of effective monitoring, contributed little over the course of time to ensuring acceptable conditions and longevity for the "pieces", whether during transportation to the destination markets or during assignment to the productive processes "after delivery". Consequently, high replacement and maintenance costs were incurred and armed overseers had to be employed by the transporters and the owners of the "pieces" to ensure not only their suitable transportation and performance but also to deal with the numerous rebellions and desertions resulting from the slaves' latent feelings of revolt, fired by the despairing circumstances in which they found themselves.

From the early 19th century onwards, the expansion and development of agriculture and industry, particularly in the colonial territories and former colonies in the Americas, and the growing scarcity and consequent higher cost of man power from the "diabolical trade", led to an increase in salaried employment. In turn, this made room for unfair competition between producers in territories who began supporting this new production cost and those who traditionally continued to have marginal access to cheap slave labour.

This situation served as support for the arguments put forward by religious and lay abolitionists who, in addition to considering the slave trade a crime, also maintained that its eradication would be advantageous to countries' economies, since, allegedly, "free labour" would be more productive and perhaps cheaper than "servile labour". As a result, the British Parliament passed the Aberdeen Act, which granted the British Royal Navy powers to apprehend any ship involved in slave trafficking anywhere in the world, as a means of bringing about the end of slavery.

Others, holding more conservative views and who had interests in, and easier access to, the "diabolical trade" argued that "abolition would cause an economic crisis since large-scale farming would be unable to support the impact of the loss of slave labour".

However, notwithstanding these very different outlooks on the benefits of "servile labour" for the economy, according to more recent theories[11], countering preconceived ideas on the subject, the "economic relevance of slavery and the slave trade lay not in the fact of having been central to the development of the European and British systems but precisely in its marginality in respect of the main trends in economic growth centred on the Atlantic". Indeed, in light of the transformations taking place in a northern Europe heading towards industrialisation, the Atlantic peripheries with "declining and threatened economic interests resorted to slavery and the slave trade as a means of staving off imminent collapse".

In recent modern times, productive organisations feeling threatened by a lack of "competitiveness", and with no possibility or no management capacity to find other ways to address the issue, are forced to adopt "austerity" measures aimed at cutting labour costs. This could involve salary "adjustments" and the progressive elimination of employee

11 Joseph C. Miller – *A marginal institution on the margin of the Atlantic system: the Portuguese southern Atlantic slave trade in the eighteenth century*. In CALDEIRA, Arlindo M. – *Escravos e traficantes no Império Português*.

benefits and "social perks" considered thus far as irreversible, or by resorting to outsourcing.

Merely from the perspective of risk management, these internal and external "adjustments" may result in inefficiencies, introducing odd "pieces" into the production value chain which are not geared towards organisational strategy and culture. The consequences of this are loss of flexibility and reaction to changes in the trends of technological innovation and working methods, and a lack of motivation in achieving and planning objectives. And this is in addition to unforeseen increases in costs, both for monitoring and controlling outsourced tasks and in integrating these with the organisations' internal tasks.

Such inefficiencies could actually, in many cases and contrary to the desired effect, lead to the unsustainability and collapse of the organisations themselves and to the decline of the economies.

The trigger

Published in FULLCOVER 8

On a summer morning in Sarajevo a hundred years ago, a young man of nineteen drew his revolver and fired not just the opening shots of the First World War but the starting gun for modern history.[12]

History has it that, whether by chance or by fate, Archduke Franz Ferdinand, heir to the Austro-Hungarian Empire, had escaped unscathed from that day's first attempt on his life. A tossed grenade apparently bounced off the top of the royal limousine and exploded under the next vehicle in his entourage, wounding its occupants.

Disregarding the dangerous situation he found himself in, and without adopting any emergency plan, the Archduke continued on his official visit to Sarajevo to be welcomed at the City Hall.

Once the reception was over, the motorcade resumed. But at one point the driver took a wrong turn and had to stop the car and reverse. He did so right where the leader of the conspirators, the student Gavrilo Princip, was standing outside a café on that fateful summer day, June 28th, 1914.

12 BUTCHER, Tim – *The trigger: hunting the assassin who brought the world to war*. London: Chatto & Windus, 2014. ISBN 978 070 118794.

Seeing the Archduke halt right in front of him, only a few feet away, Princip took a few steps forward, revolver in hand, and shot. By some stroke of good fortune for him, the shot dealt a mortal blow to the Archduke. The second bullet, aimed at the governor of Bosnia, inflicted a fatal wound on the Archduke's wife, the duchess of Hohenberg.

In the aftermath of these dramatic events, the Austro-Hungarian authorities launched a wave of repression and initiated a crackdown on the Bosnian Serbs by assault squads formed by Austrian loyalists, ransacking their properties in Sarajevo and elsewhere.

This came to a head a month later with an ultimatum to Serbia by the government in Vienna that demanded an immediate halt to the alleged anti-Austrian activities by Serbia.

Although Serbia accepted the Austrian demands in general terms, mother Russia, an ally of Serbia, ordered its armies to mobilise. This led Germany to issue an ultimatum to Russia to call off the mobilisation. Russia did not and so Germany declared a state of war. This sparked an unstoppable general mobilisation.

In this mobilisation scenario, Germany then delivered an ultimatum to neutral Belgium, demanding passage through Belgian territory to France, and declared war on France. In defence of Belgium's neutrality, Great Britain declared war on Germany, and Austria-Hungary declared war on Russia.

War thus spread across Europe. The general European populace and governments were bewildered by the rapid development of events but they did not really strive to avoid it.

Indeed, this catastrophe[13], generated by a succession of unwise and irreversible decisions by capricious statesmen and diplomats taken from the comfort of their offices, leaves one with the impression that such decisions were based on erroneous and preconceived ideas on the true motivations of the student Gavrilo Princip.

Despite evidence to the contrary, the warmongering decisions taken were based on the erroneous belief that Princip, whose intention was to free all Southern Slavs from foreign rule, had acted in the interests of Serbia as he pulled the trigger of his pocket revolver, having hit the target, often the failure of the previous attempt with the grenade.

The key issue in similar decision-taking contexts is to avoid accidental or premeditated risk assessment mistakes when identifying the motivations of those who are willing to 'throw the warning grenade' and persist in "pulling the trigger", so as to prevent catastrophes both at country and organisation level.

There was, and there will be, no shortage of opportunities for such an assessment. Just as one hundred years ago in the Summer of 1914 and, later, throughout the 20th century, we are now experiencing troubling events.

Pro-Russian separatist forces, supported by mother Russia, are by military occupation claiming ancient Russian land

13 "The war that started with the invasion of Belgium by Germany, in the belief of a short-lived campaign, came to a stop only 51 months later, leaving eight and a half million dead, twenty million wounded, several thousand imprisoned and missing persons, and only ending when resources had been depleted, cities had been destroyed, fields had been left barren and immense suffering had been wreaked..." (In AFONSO, A – *Grande Guerra 1914-18*).

that is currently an integral part of a formerly fast-developing independent Ukraine.

Islamic terrorists are occupying parts of Syria and Iraq, invoking the recreation of an Islamic State once ruled by the Ottoman Caliphate.

Regions of European nations are claiming their independence from the sovereign states that are struggling with protracted growth problems and sovereign debt management crises.

In the East, China and its neighbours have ongoing territorial disputes in the Sea of China. In many regions of the world, dysfunctional states are emerging which spawn genocide and widespread kleptocracy.

In a setting of fragmented relocation of global companies, all these events are potential issues of geopolitical risk which, hard as it is to identify and predict, tends to be overlooked, given the difficulty of the quantification of political and social instability.

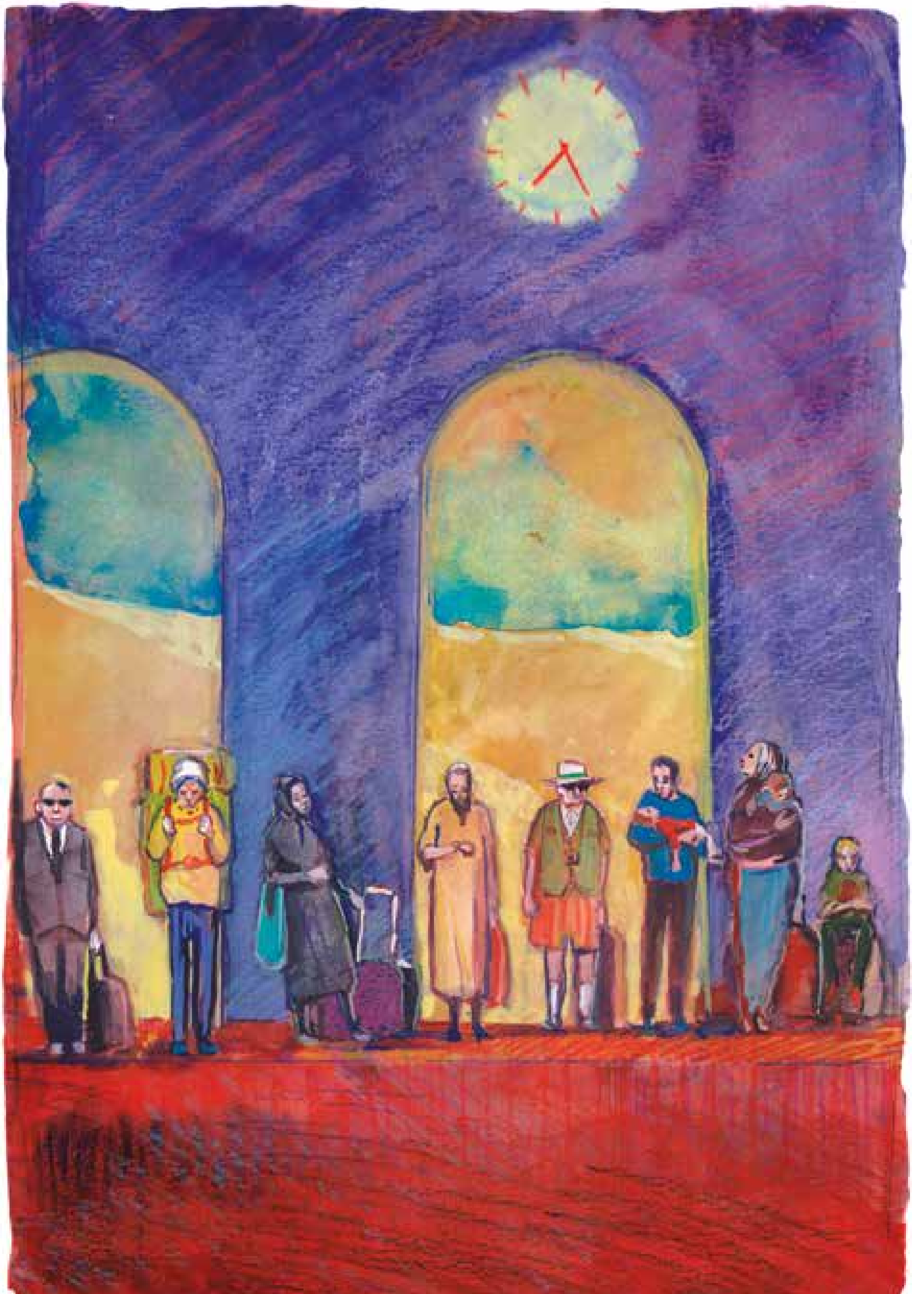
To ensure their survival, companies, particularly those relocating services and production and with diversified raw material sourcing and export markets, must be prepared to face not only economic crises, but also geopolitical shock.

They must identify relevant risks to their operations, evaluate the potential impact of such risks and incorporate their analyses into decision-making strategies.

In other words, for a sound decision-making strategy, companies need to identify and assess in advance, at the highest level, who would be willing, at each turn, to 'pull the trigger' and what their true motivations might be.

The Baghdad railway

Published in FULLCOVER 9



Following Kaiser Wilhelm II's 1899 visit to Sultan Abdul Hamid II – the 'Caliph of the Faithful', the Deutsche Bank supported by investors from Germany, Austria, Switzerland and other nations founded the *Imperial Ottoman Company of the Baghdad Railway.* All supporting the venture saw the potential for a major trade route to support colonial growth[14], crossing the Austro-Hungarian Empire, Romania, Bulgaria, Turkey, Armenia, Syria and Iraq (then in the Ottoman Empire).

In practical terms, the Germans hoped to access Iraq's oilfields and connect to the port of Basra, ensuring better access to the eastern part of the German Colonial Empire without having to go through the Suez Canal. In addition, the Ottoman Empire wanted to maintain control over Arabia and extend its influence through the Red Sea into Egypt, which had come under British control.

Promoted as a means of bringing knowledge and the latest western developments in science and technology to the region, the project also threatened the British colonial status quo in

14 In a similar aim the British planned the Cape to Cairo Railway to achieve expeditious access to their colonial domains, unifying their African possessions, facilitate governability, and allow the army to move swiftly to critical areas, assisting with colonisation and fostering trade.

the Middle East, and became a source of international tension in the years leading up to the First World War. Indeed, some historians believe it could have been one of the main catalysts for the war (when European operations extended into the Middle East it led to the rise and fall of new protagonists and territorial divisions which never healed in the aftermath of the conflict).

The establishment of communication routes transporting people and goods, some authors claim, began with the voyages of the Portuguese discoveries to the Far East and the New World. These may well have given rise to the present-day phenomenon of 'globalisation' – the process of furthering economic, social, cultural and political integration internationally. Its key aspects are defined as "trade and financial transactions, capital movement and investments, migration and movement of people and the dissemination of knowledge."[15] At the time, the intention of the imperial powers in establishing new communication routes would have been to organise and perpetuate their colonial rule in a context of peace, replacing the inefficient older practices of organising their trade along 'military and war-like lines, as an additional activity to that of pirates and privateers, armed caravans, hunters and sword-wielding merchants, armed city-dwelling bourgeois, adventurers and explorers, plantation owners and conquistadors, and slave capturers and traders'.

The Imperial Ottoman Company of the Baghdad Railway would be a more efficient exploitation of their domains through the pacification and submission of indigenous people

15 In AL-RHODAN, Nayef R.F.; STOUDMANN, Gérard – *Definitions of Globalization: a comprehensive overview and a proposed definition.*

and better access to their respective natural resources. While it may have been unintentional globalisation, it became an unstoppable consequence of this goal to improve efficiency.

However, notwithstanding the pernicious effects justifiably attributed to 'globalisation' (caused by the partial loss of national sovereignty due to the emergence of supra-governmental organisations beyond state and democratic control), weaker states now have facilitated access to knowledge through new information technologies and free circulation; access that, even if they so desired, 'stronger states' would be powerless to prevent through recourse to increasingly inefficient and frowned-upon new 'walls'.

Generally speaking, human geography across the various regions and continents, and Europe in particular, is the result of cultural and ethnic miscegenation caused by a never-ending stream of invasions and migrations over the centuries. In the case of Europe, there is no need to go back as far as the barbarian invasions that gave rise to the new nations born of the ruins of the Roman Empire or, in more recent history, the diaspora caused by religious persecution, to see that the ancient imperial states not only promoted emigration beyond their boundaries but also absorbed waves of immigrants within their domains.

Whether as a result of invasion or persecution, new communities were formed creating opportunities for progress through the dissemination of shared knowledge and peacetime trading. Notwithstanding, "adjustments" that were more or less circumscribed and violent caused by ethnic or religious antagonism and disputes related to trade and territorial interests.

Nowadays, as though reversing the flow of our recent colonial past, waves of migrants are arriving on Europe's doorstep, generating tension that many see as a threat to peace and security. A hundred years on, and in an ironic twist of history, the migrants from the Middle East are now tracing the same route towards Berlin as that taken by the Baghdad Railway. At the time of its building, the unilateral aim was undoubtedly to provide the German Reich with access to its colonies and raw materials – troubling the status quo of the British Empire to the extent that it felt threatened and war ensued – but it was also seen idealistically as a means of bringing "western knowledge" to the "cradle of civilisation".

However, unlike those who feel a threat to their status quo, the more enlightened, in Berlin and elsewhere, see this traffic along the "new Baghdad Railway" not as a means to expeditiously dispatch colonists and gain easy access to natural resources but, rather, as a process of circular migration facilitating new opportunities for multilateral interchange between peoples.

The host nations could see opportunities from a demographic and productive contribution by this huge mass of humanity bearing hope and "western knowledge." Another opportunity, following the desirable return home of these immigrants, could be the prospective fostering of cultural relations and international trade in a possible future of peace and reconstruction of the war zones which gave rise to these migratory movements. Or, to put it another way, it is by correctly assessing *strengths* and *weaknesses* that *opportunities* are built and *threats* are reduced.