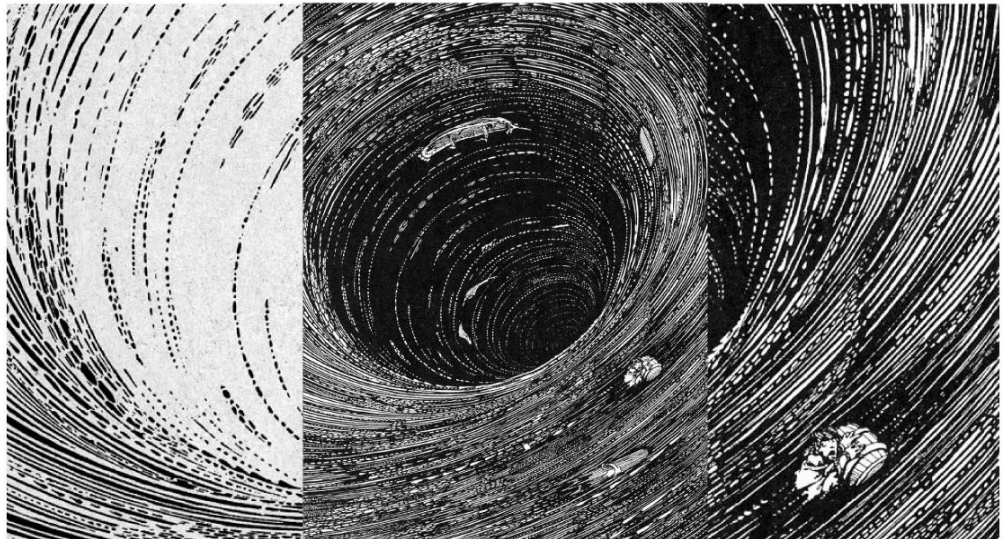


Writing to Queens while Crises Proceed

Jorge Braga de Macedo¹

José F. P. Santos²

Rui Malhó³



Edgar Allan Poe, "Descent into the Maelstrom" (1841), *Tales of Mystery and Imagination*, (1919) Illustration by Harry Clarke.

¹ ACL, CG&G/Nova School of Business and Economics and IICT

² MIT Sloan and CG&G

³ ACL and Faculty of Sciences, University of Lisbon

Introduction

Poe's "Descent into the Maelstrom" was used to illustrate the proceedings of a conference on the global financial crisis organized by Nova University's Philosophy Department in October 2009 and published two years later. Even more than the photograph of a large, swirling body of water on the book cover, the vivid illustration used here may apply to the popular perception of economists following the global crisis. In addition to letters by members of the British Academy explaining the crisis to Queen Elizabeth following her visit to the London School of Economics on 5 November, 2008, the title includes a fictional Portuguese-speaking Queen.

Thanks to a memorandum of understanding agreed in early 2008 between the Institute of Advanced Study of the Lisbon Academy of Science (ACL), *Instituto de Investigação Científica Tropical* (IICT) and the Center for Globalization and Governance at Nova School of Business and Economics (CG&G), a "Letter to Queen Lusofonia" could be the outcome of an interdisciplinary conference sponsored by Banco de Portugal. At its meeting of 5 November, 2009, ACL's economics and finance section agreed on a tentative program for the conference featuring Paul Krugman and Olivier Blanchard, the two new foreign members who had just been selected to succeed the late James Tobin.

The message from the conference was to be different on at least two counts from that of the British Academy. Instead of explaining "why nobody had seen the crisis coming" in terms of economics and humanities, with a marked geographical focus on the North Atlantic, specifically US and UK, ACL would add to the economists interested members of the physics and biology science sections, and seek perspectives from the members of the Community of Portuguese speaking Countries (CPLP), especially Brazil. While the conference had to be postponed, the project continues: under the admittedly cryptic title *Writing to Queens as Crises Proceed*, three contributions are gathered here⁴.

Section 1 updates parts of Jorge Braga de Macedo (JBM)'s contribution to the conference book⁵, where he derived the "together alone" paradox in the international order from the observation that potential cooperative solutions are not applied domestically and internationally. The coexistence of a global crisis with national policy responses casts doubt on the "never again issue" in the agenda of the British Academy. JBM suggests a letter to Queen Lusofonia (LQL) which would avoid "group think" of advanced (blue-eyed?) countries. A debate encompassing humanities and social sciences as well as natural sciences on the one hand and a diversity of CPLP perspectives on the other might do that. This hope, expressed on p. 144 note 36 of the conference book, led to the LQL project.

⁴ This is a revision of a booklet inserted in a forthcoming publication of IICT

⁵ "Global crisis and national policy responses: together alone?", reprinted from *Ética, Crise e Sociedade*, edited by Michel Renaud and Gonalo Marcelo, V.N. Famalico, Hmus, 2011 pp. 91-159, revision of *Nova Economics Working Paper* n 546, March 2010. References were dropped. The *2008 Lisbon Declaration on Science & Technology for Global Development*, drafted by Jean-Pierre Contzen, as government adviser on S & T calls for other academies and research universities to adopt a public debate agenda involving more economic and interdisciplinary work. See section 1.6 below and the original contribution for more.

On 12 October, 2011 the economics and finance section met to welcome José F. P. Santos (LQL), from Cambridge and MIT to the LQL project. Associated to CG&G he had previously sent a few remarks while Renato Flores from the Getulio Vargas Foundation, Rio de Janeiro, presented his *Nova Economics Working Paper* nº 558 and Jean-Pierre Contzen shared a recent paper on innovation policy (both summarized in annex). At the following meeting, on 9 November, JFS expanded on his contribution. President Eduardo Arantes e Oliveira was present at the session together with Rui Vilela Mendes (RVM, who wrote a note in annex to section 1 related to his paper, also summarized in annex) and Estela Barbot (invited to the original conference with António Horta Osório, to reflect views from the private sector).

Krugman's visit was discussed in that context, a point raised again at the joint session of 15 November, 2011. As expected, the Nobel prize economist participated in a meeting of the economics and finance section on 24 February, 2012, where a short paper delivered by Rui Malhó (RM) was debated. The meeting was also attended by RVM, Manuel Jacinto Nunes, Paulo Pitta e Cunha, José Silva Lopes and António Pinto Barbosa, together with Helena Garrido, deputy director of *Jornal de Negócios*, Ana Melo and Luís Goulão, both from IICT. The Annex to *Nova Economics Working Paper* nº 566, July 2012, partly reproduced here, summarizes the discussion. The LQL project has also been featured in graduate courses at NOVA SBE, using the readings listed in annex.

Section 1

Letters to Queens

Jorge Braga de Macedo

The first G-20 summit was held in Washington in December 2008 to deal with the financial crisis even though it also sought to preserve the multilateral trade system. There were follow up meetings on macroeconomic stimulus packages in London and Pittsburgh, where the so called Washington consensus of the 1990s was pronounced dead and the IMF received a renewed mandate for comparative analysis. After decades when failures of coordination within and between advanced countries, even within an increasingly integrated EU, were seen with benign neglect, governments had to face together a financial crisis that their nations addressed alone. Actually this paradox in the interaction between globalization and governance (G&G) arose within the euro area itself. There policy coordination is supposed to be strongest, even before the Lisbon treaty gave a formal role to the finance ministers of its member countries, alongside those of the EU who were signatories of the Maastricht treaty in 1992. Independently of joint appearances at the G-20 summits, following enlarged G-8 events, developed countries and emerging markets realize that they are mutually interdependent even though they rarely coordinate their national policy responses, making the 'together alone' as global as the crisis.

The trade and financial links between the United States and China, sometimes called the G-2, are the most vivid example but the differences in the perception of the financial crisis of 2007/2008 by the Queen of England and the President of Brazil are equally striking. On a visit to the London School of Economics on 5 November, 2008, Queen Elizabeth asked Luis Garicano: 'if these things were so large, how come everyone missed them?' During a subsequent visit to Brazil of her Prime Minister, President Lula made an equally celebrated comment: the crisis originating in rich countries is 'a blue-eyed crisis'. There have been responses to the question in the form of letters, whereas the comment has been neglected as a kind of ethnic joke. Nevertheless, the implicit exchange between Queen and President underscores the cultural dimension of the 'together alone' paradox: no one saw the global crisis coming because everyone who could see suppressed a (blue-eyed) crisis. This tendency for 'group think' cannot be ignored in a world that is both highly connected and tribal⁶. In any event, the British Academy responded to the Queen's question on 17 June, 2009 by convening a 'Forum' on the crisis. A second 'Forum' on the subject was held on 15 December 2009, and another letter sent on 8 February, 2010, investigating 'financial and economic horizon-scanning capabilities'. The second letter was more critical of the UK government precisely because 'the major challenge is to make institutions and organizational cultures work together. This means also getting the right people involved who see the task as a central part of their role in government. One can have as much scenario planning as one likes, but if there is

⁶ Gillian Tett, *Financial Times*, 9 October, 2009 - who refers to this as the 'silo curse'. See note 13 below.

no buy in from the people who will be taking the decisions in a crisis, then it is probably counterproductive.

Thus the G&G paradox revealed by the global crisis is rooted in groupthink within and between countries. In spite of peer review mechanisms at the OECD and the EU, and of international governance innovation such as the global partnership for development (and the seven other MDGs), not enough attention was paid to common problems among advanced countries, including financial regulation and supervision in the face of rising asset prices. Increased trade in goods, services and assets led to rising global imbalances between the US and emerging markets with currencies pegged to the dollar, especially China. The resulting volatility in prices of oil and staples had severe implications for poverty alleviation and food security, making the seven quantified MDGs impossible to reach in 2015. The argument embeds the letters to the Queen into a renewed interest in methodology which goes beyond recurrent calls for interdisciplinary research - as long as this research does not disturb the usual economists tribes, a point that comes across more clearly in the second letter. Noting failures of cooperation within and between countries, a perspective based on G&G interaction to the together alone paradox finds mutual knowledge essential for the global partnership on development and experiences of culture-based multilateralism. Europe is of course a prime example of regional governance where peer pressure stems from explicit commitments, yet it has become the epicentre of the crisis. Multilateral surveillance mechanisms still fail the mutual accountability test contained in the Monterey declaration of February 2002 which was supposed to replace the so called Washington consensus and the G20 did not bring out coalitions where peer pressure is for action, not for inaction.

1. Economic culture wars revisited⁷

If the G20 enhances the multilateral surveillance framework of the IMF in the direction of mutual accountability, coalitions among nations and regions will have beneficial consequences for the global common good and may reflect positively on the role of economists in public life. In 2009, the field is full of controversy: on October 12, the day the Nobel prize in economics was announced, a global insight by Alan Beattie appeared in the *Financial Times* about the bickering between freshwater (e.g. Chicago) and saltwater (e.g. MIT) economists⁸. Yet this has not avoided tribal answers from salt or freshwater economists. Worse yet, both tribes share what Andrew Lo calls physics envy over organic analogies which would seem to be more appropriate to model the adaptive nature of individual and collective behavior but have remained far from the mainstream.

The quote from Krugman's *NYT Magazine* of 2 September 2009 (Why did economists get it so wrong?) follows: "Few economists saw our current crisis coming, but this predictive failure was the least of the field's problems. More

⁷ In fact, the only methodological debate I remember, in part because I used it in my introductory macro course at NOVA SBE, happened in *Slate Magazine* in the Fall of 1996 launched by Paul Krugman's Economic Culture Wars.

⁸ The profession needs humility he said, and added anyone who thinks otherwise is an idiot. The 2009 awards testify that economics as a social science deals with institutional and governance issues. Mocking rational expectations in a cartoon inspired by Voltaire's *Candide* appeared in the FT on 30/31 December: <http://www.ft.com/cms/s/0/e5a1261c-f493-11de-9cba-00144feab49a.html>.

important was the profession's blindness to the very possibility of catastrophic failures in a market economy ... the economics profession went astray because economists, as a group, mistook beauty, clad in impressive-looking mathematics, for truth ... economists fell back in love with the old, idealized vision of an economy in which rational individuals interact in perfect markets, this time gussied up with fancy equations ... Unfortunately, this romanticized and sanitized vision of the economy led most economists to ignore all the things that can go wrong. They turned a blind eye to the limitations of human rationality that often lead to bubbles and busts; to the problems of institutions that run amok; to the imperfections of markets – especially financial markets – that can cause the economy's operating system to undergo sudden, unpredictable crashes; and to the dangers created when regulators don't believe in regulation. ... When it comes to the all-too-human problem of recessions and depressions, economists need to abandon the neat but wrong solution of assuming that everyone is rational and markets work perfectly."

James Galbraith begins with another quote from the same piece: "Of course, there were exceptions to these trends: a few economists challenged the assumption of rational behavior, questioned the belief that financial markets can be trusted and pointed to the long history of financial crises that had devastating economic consequences. But they were swimming against the tide, unable to make much headway against a pervasive and, in retrospect, foolish complacency" and takes issue with him for not naming the exceptions: "Apart from one other half-sentence, and three passing mentions of one person, it's the only discussion" the one mention in the entire essay "of those economists who got it right. They are not named. Their work is not cited. Their story remains untold. Despite having been right on the greatest economic question of a generation" they are *unpersons* in the tale. He goes on to compare the distinction between saltwater and freshwater economists to Tweedledum and Tweedledee and concludes: "This remains the essential problem. As I have documented" and only in part "there is a considerable, rich, promising body of economics, theory and evidence, entirely suited to the study of the real economy and its enormous problems. This work is significant in ways in which the entire corpus of mainstream economics" including recent fashions like the new "behavioral economics" "simply is not. But where is it inside the economics profession? Essentially, nowhere. It is therefore pointless to continue with conversations centered on the conventional economics. The urgent need is instead to expand the academic space and the public visibility of ongoing work that is of actual value when faced with the many deep problems of economic life in our time. It is to make possible careers in those areas, and for people with those perspectives, that have been proven worthy by events. This is" obviously "not a matter to be entrusted to the economics departments themselves. It is an imperative, instead, for university administrators, for funding agencies, for foundations, and for students and perhaps their parents. The point is not to argue endlessly with Tweedledum and Tweedledee. The point is to move past them toward the garden that must be out there, *that in fact is out there*, somewhere" (emphasis in original).

While revisiting these economic culture wars more than ten years after helps deconstruct the letters to the Queen, the development dimension remains as implicit as the hypothetical exchange with President Lula mentioned at the outset.

The *ösilo curse* brings out historical comparisons but also a broader geographical domain, beyond the *öblue-eyed* or Western world. In other words, the dangers of *ögroup think*, apparent before this crisis, have not been analyzed in connection with global, or even regional, governance⁹.

2. Nine points and then three more

1. Ferocity not foreseen, powers not available
2. Imbalances and risk neglected
3. Global savings glut and easy borrowing
4. Wishful thinking combined with hubris about risk
5. Politicians believed bankers were engineers
6. Feel good factor led to delusion
7. Lax regulation: don't do bubbles after dot.com
8. Psychology of herding and no single authority
9. Forecasting failure: never again?
10. Horizon-scanning is distinct from forecasting.
11. Culture and institutions
12. Government did not help

The first letter to the Queen focuses on the advanced economies (especially US and UK) and only mentions China and India in connection with the *öglobal savings glut* in point 3. Point 5 (seeing bankers as engineers) pertains more broadly to *öadvanced economies* and leads to the *-feel-good factor* there as creating a *öpsychology of denial* (point 6). The *öpressure for more lax regulation* (point 7) was also greatest in US and UK since *ösome countries did raise interest rates* (point 7a) but the *öpsychology of herding* (point 8) fed the *benign neglect* about rising imbalances in the US balance of payments. The view of the US and China as a *pseudo monetary union* reinforced the complacency about systemic risks (point 9). The parallel with the 1920s - when residential mortgage rose from 10% of household net wealth to 29% - is striking. The recession which began end 2007 is about half of the Great Depression in the US - but worldwide it was the same at the March 2009 trough. The three points from the second letter underscore the *ötogether alone* *ö paradox* within a single government more than the first letter but still neglect the international dimension of G&G interaction.

3. Culture and development goals

The best chance of avoiding the need to repeat the LSE question lies in quickening the sensitivities and states of mind of those charged with trying to anticipate what economic and financial shocks may occur in future. This can only happen where there is an environment which provides sufficient criticism of assumptions and is open to considering a wide range of possibilities. The hierarchical structures and histories of our many organizations provide a major challenge to making this work effectively. Hence the need for a combination of cultural and institutional reform.

⁹ In December 2006, Krugman spoke in Lisbon of *öincestuous amplification* and *ösuppression* in connection with resistance to social security reform in the US. He elaborated on the idea at the award ceremony of February 2012 and since then in his blog of January 29, 2013 *öIncestuous Amplification, Economics Edition* and *öIncestuous Amplification, Further Illustrated*.

Developed countries stand to gain from contributing, bilaterally and multilaterally, to policies that turn developing countries into more open economies, better integrated in the world economy. But globalization can only bring lasting benefits if the governance response is appropriate and diverse G&G interactions make it harder to find what such response might be. In particular, trust between local and foreign partners is even more crucial in developing countries, where most of the population is in a situation of absolute poverty and the state depends on external assistance because it is virtually devoid of a working tax administration. Even in the absence of armed conflict in the country or surrounding region, trust between all the partners and entities that finance development must rest on MDGs and on policies that sustain economic growth. The prerequisite of institutional change required by such policies confirms the importance of cultural factors. Culture affects such personal traits honesty, thrift, willingness to work hard and openness to strangers, in one word, trust. The example that is very clear here is the role of the family. Institutions such as the family are very different in different parts of the world and as mentioned below this has a well defined impact on economic development. A related example is sharing, which is part of Africa's cultural inheritance. Along these lines, the Monterrey declaration favors public-private partnerships for development.

The religious dimension of culture shows a complex pattern of interaction, where the effect depends on the extent of believing relative to belonging: for given church attendance (belonging), increases in some religious beliefs ó notably heaven, hell and an afterlife ó tend to increase economic growth. For given beliefs, on the other hand, increases in church attendance tend to reduce economic growth. The concern with morality and the theological foundation of culture has increased in the context of the global economic crisis, where, according to the latest encyclical letter, the love of truth has been abandoned in favor of a crude materialism.

Benedict XVI urges that this crisis becomes ðan opportunity for discernment, in which to shape a new vision for the futureö and attributes the crisis itself to badly managed and largely speculative financial dealing but he resists the current fashion of blaming all existing world problems on the market economy. There are two practical implications of ðlove in truthö. First: Moral priorities of generosity go beyond rights and duties. Second: The common good extends the good of individuals who live in society. The worldwide diffusion of prosperity should not be held up by projects that are protectionist: more not less trade is needed. Institutional cooperation is needed outside the usual players: the defense of multilateralism goes hand in hand with the realization that structural insecurity generates anti productive attitudes wasteful of human resources. Thus human costs always include economic costs and economic dysfunctions always involve human costs¹⁰.

Rising income divergence within and between countries was once an inheritance of import-substituting industrialization and central planning but subsequent attempts at promoting convergence by raising the growth rate of poor countries

¹⁰ According to Rev Robert Sirico, followed in the text, **Caritas in veritate** is in the tradition of St Thomas Aquinas, Frédéric Bastiat, Willem Roepke and even Friedrich von Hayek.

over that of rich ones have rarely been sustained¹¹. Yet there is not a unique factor behind the poverty of nations. Poor countries are "slightly" disadvantaged in each one of the factors behind prosperity. But the combination of these slight weaknesses results in huge income gaps. This is why he claims that more rather than less globalization would make positive G&G interactions more widespread. Yet, the difficulties in measurement and interpretation of changes in cultural and governance variables should be kept in mind. For example, many of the available governance indicators are very arbitrary and their use could damage peer pressure instead of promoting it, in part because changes in these indicators are not easy to interpret. In addition to cultural diversity, then, unavailability of data and inadequate analysis thereof are reasons for available indicators to damage peer pressure instead of promoting it.

Before the crisis, the world was on track for halving poverty by 2015 (with a 1990 benchmark). Between 2000 and 2005: 120 million people out of poverty 2 million lives saved through reduced child mortality; 30 million additional 6-12 children going to school; 30 million additional families having access to drinking water; Boys and girls in equal numbers in primary school. Yet, global poverty progress was largely due to rapid growth in giant Asian countries: China, India, Indonesia and Vietnam. Most developing countries were projected not to meet most MDGs: although necessary, growth alone cannot do the job. Progress on MDGs is shaped by the global economic environment, by domestic policies and, for the poorest countries, how much and how well aid is delivered and used. Each one of these three factors looks worse with the global crisis. Tackling chronic poverty will remain a priority after 2015: MDG achievements will need to be sustained. This implies the need to consider MDGs as part of an overall sustainable development strategy.

Pro-poor growth illustrates a positive G&G interaction, whereas negative interaction hurts growth and development. Reaching the eight MDGs in 2015 presupposes sustained economic growth in addition to better governance and more aid, as recommended at the Monterrey Conference. The eighth goal (to develop a global partnership for development) reflects disappointment with the performance of developing countries which seemed to follow the policy recommendations of the so-called Washington consensus during the 1990s. As governance improvements were not commensurate with the challenges of globalization, especially in what concerns financial markets, some developing countries interrupted the long term convergence process even before the global crisis struck.

Trust between social and economic partners, an environment favorable to business development, and better co-ordination between development finance institutions may all contribute to positive governance responses. As such, they also help translate the MDGs into national and global policy proposals as required by the eighth goal, which features targets for aid, trade and debt relief. In this context, public-private partnerships become an important instrument in creating an environment favorable to the normal functioning of business and the attraction of investment, an essential element in generating employment and creating wealth.

¹¹ A caveat to usual convergence measures is the exclusive focus on GDP growth, which is criticized by Joe Stiglitz, Amartya Sen and Jena Paul Fitoussi in the 2009 report of the *øHappiness Commission*.

To the extent that they broaden the knowledge base for policy dialogue between business and the public sector (points 24 and 25 of the Monterrey Declaration), public-private partnerships help to define the common good and the best ways to bring it about in each country. This broadening of the knowledge base will in turn promote the adaptive capacity of society as a whole, a key to fast growth. The better organized and prepared is the private sector, the more easily it can take coherent positions and contribute positively to discussions and to decision taking. Similarly, a local private sector that is well-organized and technically competent can more easily be an effective partner to foreign investors, avoiding foreign capture of all good investment opportunities. The provision of technical assistance in the context of a public-private partnership can thus help private sector associations to mature or, at very least, to point out the major shortcomings and indicate where assistance could most profitably be applied.

4. Wrong question?

Once again, the LQL project was promoted by CG&G, has been featured in some of the graduate courses at NOVA SBE and was discussed during Krugman's visit to ACL on 24 February, 2012. A few days later, as he was being awarded three honorary doctorates, I introduced him as a "progressist pessimist of the world economy". True to form, he concluded his lecture with a severe indictment of the profession: "In normal times, when things are going pretty well, the world can function reasonably well without professional economic advice. It's in times of crisis, when practical experience suddenly proves useless and events are beyond anyone's normal experience, that we need professors with their models to light the path forward. And when the moment came, we failed". Silva Lopes, the official responsible for Paul Krugman's mission to Portugal in 1976, commented on his lecture and concluded with an equally dire prediction followed by a kind of silver lining: "I would very much like to see in the near future the weakening of the influence not only of freshwater economists but also of their conservative European followers. But I fear that this will not happen until we find ourselves in a more calamitous situation than at present. My only hope is that the ideas of Paul Krugman will soon have more influence in policy makers than at present seems to be the case".

In section 3 below, RM quotes the Hayek vs. Keynes *Boom and Bust rap anthem* used in my principles of macroeconomics course at Nova and cautions against any pretension about what is the best model of economic development as I cannot identify the winner of "the fight of the century". Nevertheless, agrees with the contribution by JFS in section 2 and by RVM in the annex to this section. Before noting "the absolute need to internalize the concept that no system can maintain perpetual expansion/growth" and acknowledging not a mere replacement of dominant powers but the emergence of a "second world" (Parag Khana), he quotes Flores: "as economic policy becomes even more involved with defense and security affairs, the feedbacks from each side to the other seem likely to keep dissent and animosity high, rather than contributing to peaceful and constructive approaches".

In response to RM, RVM suggested that the problem is not the crisis itself, but the coupling between finance on one side and productive economic activity on the

other as described in the note below. In that connection, he emphasized the importance of the timing of intervention from the regulators.

Krugman mentioned evolutionary economics. Organisms' evolution occurs locally and takes place over time, maximizing reproductive success, often taking advantages from crises in detriment of equilibria. If economics is done with the right spirit, some biological models cannot be applied. Some aspects in economics can be modeled by physics. For the Nobel prize winner, the Queen's question is the wrong question. Financial crises are not new, they happen all the time and are recognizable. This time is different, but it is never different. At the surface it looks different, but on the basis there is always the same pattern. While this time more documentation is available from the past, people have a short memory regarding crises. In the immediate times people will save, but then they will forget and so will the regulators. People's perception of bank functions has been misjudged. Lots of banks and products were unsupervised and unguaranteed. Krugman also questioned the usefulness parallels between the biological world and the human world, he pointed to Greece as a natural catastrophe and raised the question of whether there would be a biological model to solve the crisis.

Silva Lopes argued that behavioral economics is a growing field from which we have more to learn than from biology. Sociology and history can give more support to understand and apply to crises: different organisms; different behavior. The way to solve a crisis in Germany can hardly be successfully applied to Portugal, due to personality differences¹².

Goulão valued the contribution of psychology, psychiatry and neurology to understand the crisis, framing biology of thinking-organisms. Fear prevented us from seeing the crisis and difficulties in facing errors lead to more errors. Different geo-political references induce different information perceptions. Likewise, distinct average life expectancy thrive different decisions and will to take risks. Melo added that there are two levels of regulation in a cell - locally and globally. There is also an enormous redundancy of regulation mechanisms to overcome cell malfunctioning. Moreover, the efficiency of biological regulation relies on huge networking between every pathway of the system. Only this ensures life as a tightly regulated and thus successful process. RM added that we have to find accurately our place in the system. There is a difference between individual and collective behavior. Time scale is critical when applying biological models to behavioral ones. Man has social sciences, nature does not.

Garrido came back to the issue of relating biological models to finance markets: nowadays economy is not the same as a couple of years ago. Can we apply the same models? At this point I had to bring in another Princeton Nobel prize in Economics, Daniel Kahnemann who argues that we have two minds - a shallow and a slow and lazy. Since the second is lazy we tend to use too much of the first, which limits rationality. Therefore, it is easier to see the balances on others than in

¹² António Pinto Barbosa read a text reproduced in the annex to the *Working Paper* quoted above and asked whether there was some original misdiagnosis about the most relevant fragilities that of the Euro-Zone and, if so, might have this possibly contributed to a somewhat inadequate design of a proper monetary framework? Krugman replied that this crisis was an asymmetric shock story because Europe is pretty close to a closed system.

ourselves. The diversity of CPLP perspectives could contribute to put multidisciplinary work in the agenda and to trigger public debate by academies and research universities. Portuguese-speaking economists might transcend the silo curse in a world that is both highly connected and tribal¹³.

Krugman doubted again that the 'together alone' paradox depicted in the question of Queen Elizabeth to the LSE on November 2008 could trigger a multidisciplinary debate on the global financial crisis or indeed be tackled from a biological approach. As he would say in his lecture and has repeated many times since: 'No economic theory can perform the feats its users have come to expect of it. (í) Too much of what happens in an economy depends on what people expect to happen.' Through multiple perspectives, sights, networking and capacity of transmission between groups, a new attitude to face and overcome crises arises.

6. CPLP, mutual knowledge and Queen Lusofonia

Portugal and Brazil, five AU members (Angola, Cape Verde, Guinea-Bissau, Mozambique, São Tomé e Príncipe) and make up CPLP, with headquarters in Lisbon and under Portuguese presidency of its council in 2008-2010. Like Portugal as a tourist destination in the early 1970s, CPLP remains a 'well kept secret' of culture-based multilateralism: 'the mutual friendship among members' mentioned in the treaty is not enough to build a global partnership for development from the perspective of the group, what is called global *lusofonia* to underline that the concern goes beyond CPLP members.

The contribution of Brazil was decisive in the creation of CPLP in 1996, the joint presidency of the secretariat and of the council in 2003/2004, and the creation of Business Council with a secretariat at ELO - Portuguese Association for Economic Development and Co-operation. The two more advanced members feared that an economic dimension would trigger expectations of larger development assistance towards PALOP (and Timor since 2000). Yet the Herfindahl number equivalent is 1,4 - the same as for NAFTA - and GDP shares of the four larger countries were never smaller than 99.75%. The Bissau declaration aims at monitoring progress with respect to reaching MDGs. It emphasizes that the underlying philosophy is one of 'genuine partnership for development', based on 'mutual knowledge', an original concept which suggests governance innovation.

This was a first contribution to inserting CPLP in the quest for 'mutual knowledge'. The gains from joint actions with systemically significant emerging markets, such as India or South Africa, can be even greater if these actions enhance the South-South co-operation dimension without diluting the common cultural allegiance. In this regard the attendance at the first Ministerial Forum for Economic and Trade Cooperation between China and Portuguese-Speaking Countries in Macau in 2003 provided a good precedent for greater visibility of work carried out under OECD auspices. The presentation of OECD work convinced the national authorities present, especially the host country, that peer

¹³ Tett, quoted in note 6 above.

review mechanisms help improve the governance response to globalization and signal the rising financial reputation of emerging markets, thereby accelerating reforms and promoting the agenda of South-South co-operation.

In accordance with a decision taken at the Maputo Summit in July 2000, the first CPLP Business Forum was held in Lisbon in June 2002 and decided to set up a Business Council, whose objectives were listed at the Brasilia Summit in July 2002. They were: (i) to enhance capacity building of business associations in member countries as well as to promote cooperation between them; (ii) to create a business network in the regions where lusophone enterprises operate; (iii) to encourage strategic partnerships; (iv) to promote innovative financing methods, and (v) to support local private sectors in the public-private dialogue. Progress towards meeting these objectives was reviewed at the second Business Forum, held in Fortaleza, Brazil in June 2003 after the Brazil-Africa Forum. At the Coimbra Ministerial meeting, the message was that public-private partnerships have improved governance and mutual understanding between public and private partners.

Facilitating North-South-South cooperation also provides a European identity in development co-operation which has been lacking even though the EU (including the Commission and member states) is the largest donor. Greater North-South-South partnership may be easier in areas where mutual knowledge is greater. The Consultative Group on International Agricultural Research (CGIAR), housed at the World Bank, is the international body that sparked the 'green revolution' in crop yields during the 1960s and 1970s which alleviated poverty throughout Asia. Due to a lack of support for implementation in Africa, the 'green revolution' did not benefit the poor there. Symbolically, the first meeting of the CGIAR in Africa announced a major reform, implemented throughout 2009.

One reason why North-South-South co-operation may be the way to go is that questions arise about the effect of cultural and linguistic proximity on the effectiveness of peer pressure. The Commonwealth of Nations, based in London, and the *Organisation Internationale de la Francophonie*, based in Paris, are two strictly North-South entities, with some common members such as Canada and Mozambique. On the contrary, the Ibero-American Secretariat (SEGIB), based in Madrid, and especially CPLP are rather North-South-South, with common members Portugal and Brazil. The latter two are easier to recognize because their diversity precludes the association of the language with the particular governance model of the former colonial power: there is no expectation that membership will bring about economic and political convergence. In addition, the geographical dispersion of CPLP is far greater than in the other three entities, and, after the graduation of Cape Verde to middle income country status, there are still five less developed countries.

The overwhelming weight of Brazil and the difference in bilateral relations with India or China between Portugal and the UK, France or even Spain, a member of the G20, goes in the same direction. As RF emphasizes, CPLP is closer to ASEAN or the BRICS in the sense that the diversity of every member is easier to recognize. On the other side, this extreme diversity makes it imperative to enhance the relations between the members and their subregional organizations,

such as the Association of South East Asian Nations (East Timor), the Community of Central African States (São Tomé e Príncipe), the Economic Community of West African States (Cape Verde and Guinea Bissau), the EU (Portugal), Mercosul (Brazil) and the Southern African Development Community (Angola and Mozambique).

Yet progress has slowed at the political and economic level as crises unfold on both sides of the North Atlantic and the CPLP secretariat, its Business Confederation and the Macao Forum did not managed to explore the complementary among members, let alone their surrounding economic areas.

Coming back to Kahnemann, it is easier to see the balances on others than in ourselves. In a world that is both highly connected and tribal, Portuguese-speaking economists might not be better able to transcend the silo curse than their English-speaking colleagues and an interdisciplinary forum could limit interaction and bring out a hollow consensus. Appealing to Queen Lusofonia was thus seen as a natural imitation of the British Academy, with the two differences pointed out at the outset: going beyond English and social sciences.

The contributions to such letter contained in this booklet address organization and management on the one hand and the meaning of volatility on the other. In so doing they continue the approach of the proceedings of the conference on the global financial crisis organized by Nova University's Philosophy Department. While the vivid illustration used here may indeed apply to the popular perception of economists following the global crisis, we recall from Poe that the brother who abandoned ship was the sole survivor¹⁴!

¹⁴ *ØI* resolved to lash myself securely to the water cask upon which I now held, to cut it loose from the counter, and to throw myself with it into the water. I attracted my brother's attention by signs, pointed to the floating barrels that came near us, and did everything in my power to make him understand what I was about to do. I thought at length that he comprehended my design - but, whether this was the case or not, he shook his head despairingly, and refused to move from his station by the ring-bolt. In his comment on the cautionary tale, Contzen emphasizes the wisdom of Sicilian sailors: «Mettons en lumière les raisons d'espérer; ne prenons pas à la lettre la belle image du maelstrom qui engloutit tout, ce maelstrom, glorifié par Edgard Allan Poe et Jules Verne qui n'est, à vrai dire, qu'une particularité de la dynamique des fluides, devenue simple attraction touristique dans certaines parties du monde. Suivons l'exemple de ces marins siciliens qui avaient acquis l'art de naviguer entre Charybde et Scylla et utilisons notre pouvoir de penser pour créer un nouveau dynamisme basé sur une éthique renouvelée dans une société apaisée, plus résiliente aux crises ».

Annex to Section 1: The coupling question by Rui Vilela Mendes

As pointed out some time ago by Olivier Blanchard the losses in the subprime loans and securities, a relatively small sector of the US economy, will have a loss impact in the world GDP of at least twenty times more, not to speak of the much larger impact on the world stock market capitalization. This shows the very serious nonlinear coupling of the financial instruments among themselves and with the overall economy.

The financial sector, an otherwise useful device for making capital savings available for investment, has become an independent world by itself with rules and practices sometimes far removed from the realities of the productive economy. Think for example of the volume of oil derivatives traded every day and compare it with the expected production on the next ten years.

Some of the imaginative instruments that are created in the financial world are not even used for its original purpose. For example the pooling of mortgages in MBSs, an adequate instrument of risk transfer, defeat their own purpose when, for reasons of short-time profit, are kept on SIVs. All this is natural to occur, because human ambition is driving the machine and the sector being highly dynamic and innovative is not fully understood by all players. Therefore financial crisis and bubbles are bound to occur and it is unlikely that static regulations will ever avoid them. Many regulations were already in place, which did not control the dot-com bubble or the sub-prime bubble and not probably the next shale-gas bubble.

The strong coupling of the finance world with the world GDP, what is sometimes called the financierization of the economy is the real problem, not crisis which are bound to occur as in any dynamic game. From a useful instrument of the economy, the finance sector became its master. Regulate it, is probably not the right approach. To weaken the coupling would be perhaps better. Is it possible?

Section 2

The role of organization and management in the financial crisis

José F P Santos

1) If the Queen had asked me why no one had seen the financial crisis of 2008 coming, I would have replied that those whose actions made the crisis real didn't understand what they were doing until it was too late. At the same time, observers who might have foreseen the crisis failed to view the actions of those who made it real in a global context. The crisis resulted from the actions of several financial firms and their management. I will refer to such firms henceforth as *GS*.

2) Of course, this does not absolve individuals and nations of blame. Surely individuals acted with guile, and nations or groups (such as bankers or derivative traders) acted under a particularly harmful form of *group think*. Nations and individuals also acted in the absence of mutual understanding, evoking the worst of *together alone* (using JBM's expression). These actions created a system failure far more serious than anything current global governance safeguards could prevent.

3) I have not conducted a study of any specific *GS* and its activities over the last two decades, but I did follow such financial firms in the media, and I had many conversations on this topic with colleagues at INSEAD and MIT Sloan and with acquaintances in Wall Street and the City. I can make informed comparisons between a *GS* and global companies that I have studied, such as IBM or HP, General Electric or Siemens, General Motors or Nissan, Nestle or P&G.

4) The top executives of many global companies have a concept of the term global that was shaped in an age of a non-global world or a world that was in the early stages of globalization. Such a view is flawed. These managers see global as something important for revenue growth overseas or having to do with the universal appeal of their brand or product. In fact, what global is really about is interconnectedness, interdependence, and integration. A global market does not make a global world. The specific value of a geographic portfolio is null in a globalized world. Indeed, the higher the degree of globalization, the higher the overall level of uncertainty – not just generalized uncertainty, but namely administrative uncertainty.

5) My hypothesis is that as the various *GS* engaged with other similar firms and with clients around the world in large flows of financial products – mostly of the acclaimed *innovative* kind (read, some sort of first, second, or *n*-th-order derivatives) – in different and dispersed organizational units and levels, such firms and their top managers were not aware of the higher administrative uncertainty and huge risk the whole thing posed to them, directly or indirectly.

6) I am not speaking of the enterprise risk models that missed the interdependencies across different business units, nor about the inadequate and

possibly illegal processes of subprime mortgage origination and approval, nor about the incongruence of allowing different business units in one firm to deal against one another. I am talking about the huge, compounded interaction effect of unwise decisions and globalization.

7) It seems clear to me that the top managers of GS were not simply ignorant of the real impact of globalization. They also led firms with improper governance. And they were objectively incompetent themselves – not because they were greedy but rather because their remarkable (but parochial) political skills and their successful (but parochial) careers took them to the top of large global firms, while they remained ignorant of what large – not to mention global – means to an organization. Succeeding in complicated financial deals is not tantamount to managing complex organizations effectively.

8) There are two more matters to add here, related to managerial behavior and organizational learning. At the firm level, I cannot help but notice that some of the most influential investment and securities firms had been private partnerships for many years (their days of glory?) and recently became public companies. (Goldman Sachs, for example, went public in 1999. The New York Stock Exchange became a public company in 2005.) If a GS didn't have to grow, grow, grow the top line (a condition known as stock market oblige), would there still have been the frenzy for innovative products? If AIG had been privately held, would it have allowed a few employees in London to bet the owners' private fortune? Internationalization and globalization can produce very tough moments for companies and their management teams, which must operate in conditions of high ignorance and high uncertainty. Going through globalization under the scrutiny of a stock market, which itself is not yet used to globalization, is a very difficult proposition. I would argue that if a public company wants to globalize, it would do better to go private first, globalize, and issue its IPO after it becomes global.

9) And then there is the individual manager level. We have seen over the last couple of decades that vast wealth was hastily amassed by many of the top managers of GS, as well as managers and experts of the units of GS. We don't really know how having made hundreds of millions of dollars affects a manager or the organization the manager manages. And if we have a number of such nouveau-very-rich managers as the leadership team of a global firm, we know little of what that implies for the firm. My hypothesis is that such nouveau-very-rich managers exhibit a much higher agency cost to the firm than what conventional agency theory would predict. Conventional stock options and similar alignment incentives simply become dysfunctional after a certain level of accumulated benefits – if they are ever functional at all.

10) What is remarkable to me is that I have met over the years several top managers and leadership teams explicitly aware of what globalization and global integration really entail and who were implicitly capable of addressing the shortcomings of 'together alone' at the level of their companies. I've seen the equivalent of 'culture-based multilateralism' and suitable levels of 'mutual knowledge' in several companies. Examples include Nestle, IBM, Renault-Nissan, and several others. Interestingly enough, such managers and

organizational capabilities may somehow be absent in the financial sector or so it seems.

11) Why would that be? We know that the financial sector was probably the first sector to become *global*, but in the *global market* sense (one market, one product, one set of rules) or *global as universal*. In many other sectors (e.g. cars, food, IT services), the quick failure of the *global product* vision gave rise to the understanding that what globalization really brought was global production and global delivery for superior efficiency. Managers in these sectors learned that globalization was about creating interdependent (and differentiated) units across countries, not global clones. Profitability would be higher with this kind of globalization, but so too would risk. Managers in these sectors took risks into consideration, although the recent Japanese earthquake/tsunami showed that even relatively simple global supply systems are anything but surprise-free.

12) My point here is that the speed of financial *globalization* was too high (and too successful for a while) to show and teach managers of financial firms and regulators how to take globalization into account in corporate governance, in managerial processes, and in executive development at GS.

13) Another factor may have also played a crucial role in preventing managers in GS from understanding what GS was up to. I refer to the virtual nature of work in many of the relevant GS units, say, those involved with *innovative* (and complicated) products, such as structured finance or certain derivatives and swaps.

14) The radical evolution of IT over the last few decades made financial products and the respective operations *virtual* in different ways. Those involved in trading or operations work virtually. They are dispersed and communicate mainly through technology. (In many respects, even a modern trading room is a place where traders are physically *together* but *alone*.) Virtual work still suffers from the *liability of newness*, but it challenges us well beyond that.

15) Workers and managers in virtual work have only indications of their colleagues or counterparts (e.g. a voice, an email). Humans have not evolved, individually and socially, to cope well just with indices of one another. And *trust* needs touch (as Charles Handy put it). We know that trust is a central issue in virtual work, and too much trust (with lack of control) or too little trust (with lack of cooperation and ineffective coordination) produce very poor performance from otherwise capable individuals. (Even the infamous case of Barings occurred in Singapore, very far from London, in a classic combination of misplaced trust and failed control-at-a-distance). The trust issue may be compounded if the object of work is digital (*invisible*) too. Ex-ante honesty combined with lack of informal and formal controls may well turn into ex-post malfeasance and catastrophic or quasi-catastrophic behavior (the more recent cases may well fit here).

16) But in the case of financial products, namely in the case of *innovative* finances, it is the very product that is *virtual*. An old-fashioned loan was also a representation (a piece of paper), but at least it was physical (we are analogue beings after all) and it had a referent (the money used to buy a given house, for

example) ϕ and therefore the representation could be indexed. (There are good reasons why traffic controllers use both very modern IT and a piece of paper when passing the flight of a plane to the colleague handling the next level or approach distance.) A complicated, multi-layered structured paper is still a contract and is meaningful, but it is largely symbolic and without a referent. No one really knows what it is about, really. Using digitized symbols alone is a bit like dealing in pure mathematics: One can lose track of the real world. People who are required to function under these conditions find that the virtual nature of their work becomes real to them. They believe that the rules that govern the symbols are those that govern or should govern the real world. Such rules become a new ethics. Immersed in a double-virtual world, with virtual products and virtual work, the modern banker or trader becomes lost. Viewed from the outside, the collective performance of these individuals can appear crazy or dishonest or both. Speculation that executives of banks didn't understand the formulae of structured products or complex options seems a bit much to me. I would offer the proposition that such executives were confused with the purely symbolic nature of such products. (There is incidentally some very recent work out of Stanford of similar issues in the context of engineering work.)

17) There are many and varied elements we need to consider and include in our tale to our (virtual?) Queen if we are to notice the next crisis or, even better, to make it unlikely. Such elements should include the organization and management of financial players.

Section 3

A Cell Biologist *naïve* approach

Rui Malhó

Prologue

By the title given to this text it is easy to realize that my intention is not to provide a deep biological analysis to the economic crisis. I aim only to discuss some concepts of organization of biological systems and extrapolate to the observations and comments that I have been experiencing while spectator interested in economic models; hence the naïve approach.

I hope, at best, to stir up a debate with new views on an issue which is cyclical ó the emergence of perturbations (crisis) in a system ó and contribute with some possible answers diverting from a neoclassical perspective¹⁵. I also hope that these answers (actually, more like hypothesis) are not regarded as solutions; If something of more conclusive I can transmit, is that in a complex system there is always variability and thus any response implies a risk. There is no such thing in the text as the pretension about what is the best model of economic development as I cannot identify the winner of "the fight of the century"¹⁶.

Why have people not seen the crisis arriving?

I believe that the answer to this simple question is very well identified in section 1 of the contribution of José Fernando Santos (JFS) ó causers and regulators were so "close" to the problem that it went unnoticed or of low-risk, as noted by Rui Villela Mendes (RVM). The basis for such alienation have not necessarily to do with greed or other wrongdoing of (or dictated by) human behavior¹⁷. There are numerous similar examples, some of trivial consequences, others with results as dramatic or more. In all cases we can argue that there is the same neuroanatomic basis, a cognitive bias.

But even in the event of errors, be they a risk assessment, in the architecture of a system, or in the expression of a gene, the consequences are not always devastating. In reality in the vast majority of cases, errors are dissipated (cancelled) by the system properties (e.g. auditing, threshold detection, proof-reading enzymes).

Why is then, that after perception of a stimulus, the same mechanism can generate responses of such different magnitude? The local conditions in which, and on which, these mechanisms are acting. A certain signal that is perceived by an organism (e.g. cell) spreads (propagates) in a way that depends not only on itself, but also on the distribution and activity of transmitters and receivers of that signal. If a good network of cross-information and mechanisms of self-control are present, the organism limits an escalation in the progression of signal strength so as to reduce the likelihood of damage. Taking this analogy to the limit, we can consider to be in the opposite of the "together alone" argument presented by JBM. This "network" allows one to modulate the magnitude of responses within

¹⁵ Rational individuals make informed decisions resulting in collective behavior that can be modulated

¹⁶ "Fear the Boom and Bust" - Hayek vs. Keynes

¹⁷ I don't agree with the simple ótradeö concept of Adam Smith

parameters that, taken as a whole, the organism understands as acceptable (below a certain threshold). The "butterfly effect" is not deleted but it becomes highly unlikely. As mentioned in point 4 of JFS, the emphasis here is on interdependence (or integration), not in universality.

These facts can help us to interpret the causes which led to the event but do not provide an easy recipe for the prediction of future events. Continuing with the analogy to biological organism, one can say that the strategy is that each component of the system collaborates actively with all others sharing information for the organism benefit (symbiosis) and not something that will give it a competitive advantage to the detriment of other components. Making the parallel with JFS, the specific value of a geographic portfolio is perceived as null in a global environment. However, if this reasoning is taken from the organism to a supra inter-organism level, we find in nature evolutionarily successful interaction phenomena such as parasitism and commensalism. I would argue that, from a social point of view, these phenomena are morally indefensible and therefore will not advocate any strategy based on them. But it is irresponsible to ignore their existence and the inherent issue of the "prisoner's dilemma", an all-time favorite of game theory. In fact, Renato Flores (RF) in its contribution refers that multilateralism seems to be losing ground to unilateral action or bilateral arrangements.

Strategies to avoid future crisis?

Considering the thoughts outlined above, we can infer that the obvious is to propose that the different Member States and institutions agree on a larger system regulation; reducing the degrees of freedom, the risk is reduced. Two questions then arise: (1) how to enforce regulation? (2) what is the extent of the regulation one shall impose? A regulatory agency is in danger of becoming too close to the issues it is supposed to regulate and thus we return to the starting point. A regulation that is too strict (tight) will prevent the system dynamics and reduce its evolutionary ability becoming (politically) unsustainable.

A possible alternative, despite a high degree of "wishful thinking", is the greater sharing of information between the various organisms with responsibilities in regulation-cooperation. The availability of this information would help the governance of the different institutions, global or local, public or private, and could contribute to minimize the difficulties mentioned by JFS on managers and CEOs (points 7-9).

The accessibility of key sets of data and its developments would also allow a better handling of the time factor. A system with strong interdependence among its components can get a better [efficiency/response time] ratio which is essential in periods of rapid changes such as the adaptation to new environments or the emergence of a global market (see point 12 of JFS). And simultaneously diminishes the need for an (unlikely) flawless leadership. The truth is that the world is too complex and changes too quickly to depend only on talented leaderships (a dynamic turnover is essential in biological system). [One of the recurring criticisms to the EU's response to the debt crisis is precisely the difficulty to see coordinated actions.]

A major obstacle to this proposal is that in this case, the information itself acquires an intrinsic value and becomes a transactionable good in the passage of universality to interdependence. An obstacle which is mostly political! As mentioned by RF, economic policy becomes even more involved with defence

and security affairs, the feedbacks from each side to the other seem likely to keep dissent and animosity high, rather than contributing to peaceful and constructive approaches.

One final issue related to this topic is the absolute need to internalize the concept that no system can maintain perpetual expansion/growth. Any dynamic system deviates from equilibrium experiencing oscillations, more or less regular, more or less intense.

Dealing with the crisis

I believe that regardless of the political spectrum to which one belongs, even an optimistic perspective cannot deny that this crisis is not an ephemeral perturbation of the system. It is actually plausible, as proposed by RF, that it will result in an organizational change. Not a mere replacement of dominant powers but the emergence of a "second world"(Parag Khana).

In the short term, dealing with the crisis implies recognizing its global impact. This impact can be quite asymmetric depending on the size and positioning of the system components, but it will always exist. It is therefore important to define, with the maximum possible accuracy, our "location" in the system (geopolitical region), interaction networks (privileged partners), specific characteristics (language, history), and resources (goods and humans). Without this, there is a risk (temptation?) of importing well-succeeded models, tailored to specific circumstances, but whose transposition will prove ineffectual or even counter-productive. The development and application of good test-stresses is fundamental here.

Recently, and perhaps on a non casuistic manner, various sectors of society, advocated a (re)approach to the Sea and the deepening of relations with the countries of the CPLP.

It is an idea rooted on our history and which seems to gain some grounds considering the European crisis and the emergence of the so- called "second world". This expression of a collective intelligence, probably has its parallel in the seeking and obtaining resources for biological systems; in the absence/shortcoming of a energy resource, the metabolism is changed to process another that is (became) available and that the system already has mechanisms to metabolize. In fact, considering the specificities of Portugal, perhaps the best way to deal with the crisis is summed up in the words of the philosopher Agostinho da Silva ó "bringing the world to Europe, as once we brought Europe to the world".

Annex: Abstracts of papers by members of the project

1. Narrative of the crisis: from dollar to eurozone, presented at ACL on May 31, 2011 by João Sousa Andrade, Faculty of Economics, University of Coimbra

The great moderation, from mid eighties to the subprime crisis: chance or genius of economic policymakers. The elixir of economic expansion in the hands of Greenspan has created the expectation of a new era of prosperity. The irrational exuberance had important disruptive effects on financial markets. The crash of Wall Street (1987), the failure of Saving and Loans Associations (1989-91), the Japanese crash of stocks and housing prices (1990), the European Monetary Crisis (1992-3); the Mexican debt crisis (1994-5), the Asian monetary crisis (1997-8), the Russian debt crisis and the insolvency of LTCM (1998), the dotcom crisis (2000-1) and the Argentina crisis (2001-2) were all absorbed creating the sentiment that market economies' prosperity could last forever. Financial innovation allowed a higher level of wealth in a context of absolute faith on market regulation and almost absence of monetary and financial supervision. The existence of a high level of systemic risk was only recognized with the emergence of the 2007-8 financial crisis. During some months the obsession of inflation in Europe was stronger than the recognition of a sovereign debt crisis in the eurozone. Fears erupted in late 2009 that Greece might default; they have since spread to other peripheral countries and governance innovations are unfolding.

2. Consequences of the crisis for emerging markets: a world redistribution of economic power?, presented at ACL on May 31, 2011 by Renato G. Flôres Jr., Graduate School of Economics, Getulio Vargas Foundation

The financial crisis has undoubtedly meant a shift in wealth from the developed western North to the East and the South. Is this a long-lasting effect ? Moreover, even if the shift might have been substantial ó a point to be proved -, does it translate into a world redistribution of economic power to those areas, notably to emerging markets? We try to elaborate on these questions, enlarging the strictly economic perspective. Trade and financial flows, ownership of and investment in the different strategic or leading economic sectors, and the associated required educational and innovation skills are movements that add serious constraints to broad statements on power shift. Besides, behind economic power lies power itself, as embodied in sheer military and offensive capabilities. Combining basic geo-political considerations with the economic facts may change the way to look at (and forecast) the consequences of the crisis. Not only as regards so-called emerging markets ó until when will they continue õto emergeö? emerge towards what ? are they a homogenous group ? ó but also several pieces of after-crisis rhetoric, as better and increased regulation of financial markets.

3. Oscillatory behavior in Biology versus Economics - relevant similarities?, presented at ACL on May 31, 2011 by Rui Malhó, Faculty of Science, University of Lisbon

Many mutually interacting components create a non-linear activity with emerging (self-organizing) properties which cannot be deduced from the properties of the individual components of a complex system. More complexity is usually associated to greater specialization of and cooperation among system components. Examples of complex systems which cut across knowledge boundaries are cells,

pluricellular organisms, the nervous system, social interactions, communication infrastructures, the economy itself. Inherent to any complex system is the coding and transmission of information. In living organisms (cells, tissues), a given signal may trigger responses whose intensity and dispersion depend, not only on the initial stimulus but also on the local environment where it is perceived. For example, an ionic oscillation may confine itself to a small cellular region or spread through vast tissue areas - in the same way that a regional conflict may or may not have influence on a global scale. The understanding of our molecular and cellular mechanisms does not derive necessarily from the identification of stochastic phenomena. Nevertheless, it can be a way to help launching new ideas and experiments that contribute to the development of better forecasting models.

4. Mathematics and the sub prime crisis: lessons for the next stages, presented at ACL on May 31, 2011 by Rui Vilela Mendes, Center for Mathematics and Applications, University of Lisbon

Excessive reliance on mathematical models was blamed as the cause for the subprime collapse and the subsequent global crisis. By analyzing a few cases, we show that the mathematics was there, but nobody was paying attention. Sometimes not paying attention is more profitable in the short term. As lessons for the future: For the economists: Regulation should not only implement safety measures but also avoid conflicts of interest and procyclical effects. For the mathematicians: Economic mathematics is not just stochastic analysis.

5. Economics in an age of crisis: lessons from the past and present, presented at ACL on May 31, 2011 by José Luís Cardoso, Institute of Social Sciences, University of Lisbon

The current global economic crisis provides blatant evidence of different strategies used by economists to adapt their vision and proposals concerning the functioning of economic life. Many of those who play an important role as opinion makers, and / or as economic and financial advisors, are forced to admit that they were blind or wrong in their earlier diagnosis and predictions. They also make considerable efforts to keep their reputation intact by supporting arguments favorable to the flexible nature of economic ideas. The point is not only the conversion to credos that were previously conceived as a path to sin, but also the recognition that changing ideas are a natural consequence of a sudden modification of the current course of events. This issue is not exclusive of current debates among economists. The history of economic thought offers many other examples of adjustments and adaptations arising from the need to explain phenomena that had not hitherto been considered as a relevant object of study. The paper illustrates with a few historical examples the significance of new subject-matters to understand the development of distinct ways of both economic inquiry and policy advice. Special attention will be given to the varying discourses and practices of economists through the discussion of how they relate to changes associated to the occurrence of unexpected economic and financial events.

6. ðScience and Society, Successes and Failures of the couple, Between Prometheus and Cassandraö, presented on November 6, 2010 at the Académie Royale de Belgique (ARB), by Jean-Pierre Contzen

Providing a science that is as irreproachable as possible, transparent and honest; defining a new governance of science; resolving conflicts internally; establishing a new pact with the other stakeholders of our Society, politicians and general public; clarifying the relationship between science and money; resetting the relationship with the media. Academies of Science can play a role through due diligence, advice and enlightenment. Is there a middle road to shorten the scientific divide? This question deserves reflection and debate in a broader context, ranging from education to innovation. Some ideas: considering, when assisting countries, a finer distinction in their scientific capacities (emerging countries, rich countries without Science & Technology, poor countries with a legacy in S & T, the most backward countries); promoting cooperation at regional level but also between countries linked by special affinities; playing fully the card of North-South-South cooperation; supporting the efforts of international centers such as the International Center for Theoretical Physics in Trieste; examining the role of public / private partnerships in the scientific evolution of developing countries; assisting the Third World Academy of Science, which is the best forum for discussing the problem and for learning key stakeholders' points of view. Our Academies would do well to follow the work of this sister organization in this regard. Three questions that underpin the future of the relationship between Science and Society: How to avoid the perception that there is a limit to the progress of science? How to improve the governance of science while reconciling it with Society? What to do with the half of the world that currently lacks scientific progress?

7. The ARB report on *The Deindustrialization of Europe*, September 2010 presented on 17 February, 2011 at ACL by Jean-Pierre Contzen

The approaches to de-industrialization are divergent and the databases are not always coherent. Does 'industry' mean only the manufacturing sector? Where is the boundary between services and industry? Does de-industrialization mean an absolute or a relative loss of industrial activity? What to do? Two options: Fatalism claims that de-industrialization is inevitable since globalization and technical progress cannot be avoided. Robert Reich believes the challenge lies in improving the revenues of the badly paid workers. Jagdish Bhagwati advocates the abandonment of «factory fetishism» and the advent of the economy of knowledge and services (Larry Summers). To maintain the welfare of industrialized societies, it is enough to hold the control of capital, R&D and marketing. Hope maintains within developed economies a manufacturing industry, characterized by capital intensive products with high added value that use a workforce highly qualified in complex domains. The proximity of clients in the product development process and the existence of a known brand are also important. The keys of hope: organization of the global monetary system; equal opportunities for firms; resistance to protectionism; promotion of a good governance are among the factors requiring a global treatment (WTO, IMF, G20). Other factors require an examination at a regional or national level: strengthening education efforts improve manufacturer workforce qualification, thus strengthening innovation; creating a fiscal and regulatory environment favorable to industry and innovation within it; ensuring the access to financial resources; reconsidering the role of technology clusters in the survival of industry. Conclusions: Topics for future action are development of coherent databases, analysis of 2008 crisis on the de-industrialization; influence of postmodernism in

industrial policies; the future of developing countries in the different scenarios predicted for industrialized countries: will they be the second wave of emerging countries? Is there a role for Academies in the discussion of the impact of a sustainable development policy in industrial renovation? Yes because academies present a pluri-disciplinary character putting together economics, social sciences and technologies. They can provide neutral fora for stimulating discussion and promoting further studies on the subject. Afterwards, a dialogue with social, economic, and political decision makers can provide a rational basis for the decision makers' future choices.

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