
THE PRESENT CRISIS IN GREECE and ITS EFFECTS UPON THE CIVIL ENGINEERING PROFESSION

T.P. Tassios
NTUA, Greece

1. Preamble

One way or the other, this Meeting has a character of long range **forecasting**; even the present paper has to do with future events – partly though. However, our experience from similar endeavours in the past, are not very encouraging. First, because an **extrapolation** of actual trends is always a risky technique, especially in times of perturbations when the slope of the “tangent” of developments is completely uncertain. And second, because the **normative** component of such a forecasting would be subject to a series of social eventualities.

Nevertheless, such an exercise remains still useful because it has a certain probability of success, as well because it works as an invitation for a precious awareness and mobilization of forces.

2. The Greek crisis and the Profession

It would be reasonable to start with an attempt to find possible relationships between the greek Civil Engineering profession and the actual crisis of the Country. But it is rather evident that, on the contrary, the construction of civil engineering networks and the building Industry are clearly positive contributions to the wealth of the Country – rather than causes of any economical failure. Nevertheless, if we insist to offer a criticism on the matter, one could submit the following observations, not necessarily connected directly with Civil Engineers alone.

- a) The building industry is usually recognised as the locomotive of the Economy, but this is true only in the beginning of Development. Otherwise, a persistently high percentage of the sector of buildings as part of the entire construction industry, is a sign of **low productivity**.
- b) In the field of the B.O.T. works (by concession), the role of the **credit grantors** was not always very positive; to my understanding, a certain oversensitivity of bankers led to the interruption of some large projects, thus unwillingly contributing further to the greek recession.
- c) Last but not least, **corruption** was said to be higher and more frequent in the sector of civil engineering, thus contributing to both economical losses at nation’s scale and distortion of the Market. I had however the opportunity to show, indirectly though, that this sector was unfairly accused as the worst case. And we recently witnessed a remarkable development: The five large Confederations of Contractors of the Country, during an open public event, have declared their unconditional decision of all their members to refuse to succumb to any bribery pressure, and to rigorously abstain from any attempt to seek illegal services.

3. POSSIBLE PROFESSIONAL OPPORTUNITIES OF GREEK CIVIL ENGINEERS IN THE FUTURE

The uncertainties enumerated in the Preamble of this paper cannot (and should not) hinder us from an attempt to express an opinion on the most promising fields of activity that may be offered to Greek Civil Engineers during our very long recession – **extremely long**, I should say, oppositely to various lullabies heard from other quarters...

In listing these possible opportunities, I will also try to mention the corresponding needs in technical-scientific knowledge and in required financing, if any.

a) Maintenance of existing structures, is a field of expected accentuated activity. Since the rate of new construction is drastically reduced, technical and economical care will be focused to existing buildings and other structures. Thus, correction of defective durability because of environmental actions may be one of the inevitable fields of increased professional opportunities. In this respect, it should be admitted that C.E. Curricula in our Universities were not very rich in subjects related both to that kind of pathology and to corresponding repair techniques. I therefore submit that Continuing Education efforts related to this subject may be a good means to assist such developments.

b) Pre-seismic strengthening of existing structures (buildings, bridges etc.) in earthquake-prone Countries like Greece, may also be a preferred activity. To this end, a considerable incentive is the availability of the extensive Greek Code for the Structural Interventions in Existing Buildings (“KANEPPE”), covering numerical Assessment and Redesign (including both re-Analysis and re-Dimensioning with modern methods). Similarly, modern Technical Specifications (“PETEP”) are actually available for such structural interventions. Besides, the Code is very flexible, encouraging Owners to decide to proceed to some strengthening, be it considerably less ambitious if compared to the modern Codes applicable to new buildings.

The problem with such pre-seismic strengthenings is that their cost is frequently discouraging – even in rich Countries like California. This is why some reasonable economical incentives are expected to be offered by the State.

c) Maintenance of water supply and sewage systems, is another extremely important job-opportunity field. Technically, the problem is well known: because of the aging of most of these networks and their rather frequent gross-errors during their installation, average leakages may be as high as 30% in drinkable water. This is an invaluable wealth justifying any effort and expenses in leakage mapping, refurbishing studies and relevant repair works. Some Seminars on available modern methods to this end may be needed.

But the main problem here again is to finance these activities, since in Greece almost all Water Supply Companies are State-owned. Special economical studies are needed in order to find appropriate unit-price policies, combined with mixed public-private capital raising. The leading

role of Civil Engineering Associations in these initiatives has to be underlined.

d) Environmental Engineering is recognised to be an interdisciplinary field with considerable participation of Civil Engineering, such as Sanitary, Geotechnical and Hydraulic Engineering, as well as Building Technology. One may reasonably hope that, despite the economical crisis, environmentally oriented activities of Civil Engineering will be intensified – be it via broadly financed european projects. Here again, most of us (especially those in the middle ages) may need some additional extra-mural educational support in this field.

e) C.E. services offered Abroad is a subject repeatedly discussed in this Country during the past decades. In several periods, greek design and mainly construction firms had found good jobs in African and Asian Countries. But nowadays, the entire endeavour has rather vanished. One of the reasons of that failure was the excessive expectations of the private sector to be financed by the public sector. Actually, some more favourable conditions could facilitate this job-opportunity:

- Greek scientific and technical staff are more willing to work abroad with reasonable remunerations.
- Experience in “public relations” (to use an euphemism) in developing countries, is more rich now.
- Lower working costs in Greece, allow for better collaborations with large foreign Design Firms.

It is true that a considerable change of behavioural characteristics of greek citizens is needed to this end (as opposed to the conditions two generations ago). But this reshaping of moral attitudes lies beyond the jurisdiction of our professional Associations – except perhaps, for a more pragmatic modern Code of Ethics of our Profession...

4. INSTEAD OF AN EPILOGUE

The aforementioned (and perhaps a lot of other) possible trends may be traced, during the very long crisis our Country is submitted to. But it may also very well happen an other situation: that a considerable percentage of our younger Colleagues for a certain period of time, may seek refuge in another completely different profession, complying with the necessities of possibly available jobs, in Greece or Abroad. In view of such a possible scenario, I cannot exclude the need for the organisation of rapid re-training Seminars by our own Professional Associations, in collaboration with appropriate external Organisations. Fighting pessimism is equivalent to optimism – at least for a certain period of time, I repeat.

Annex

INTRA-MURAL EDUCATION?

The question may be raised about the possibly needed changes of our Civil Engineering university curricula, because of the crisis.

My opinion is that, in this Country at least, such a modification of curricula is not needed: The 5-years “integrated and uninterrupted” curriculum of Civil Engineering, followed in Greece, (i) is broad enough in order for the graduate to adapt himself to the variability of the Market, and (ii) it is scientifically based, as to offer the possibility to overcome the inevitable obsolescence of knowledge.

However, some intensifications in courses related to the Technology of Materials, Energy Conservation and Construction Management may be needed anyway.