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An Engineer in the Land of Planning *

or **Reflections from an interview with Carmen Amelia, Mason Fellow at Harvard**

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Abstract

The Mason program is Harvard's version of MIT's Special Program of Urban and Regional Studies (SPURS), a program dedicated to give mid-career professionals in planning the opportunity to take a break from the real world and sweat one year of academic life at MIT. Mason and SPURS Fellows are the traditional target of an imaginative interview assignment ("Chase a Planner") from an MIT planning course. As a former SPURS Fellow, then "downgraded" to a measly Ph.D. candidate, I got to experience both sides of this "chase". This is how I met Carmen Amelia, an engineer from Venezuela that chose to become a planner, and how I got the chance to take a fresh look at the relationship between engineering and planning. Is there an "engineer view" of planning? What brings engineering to planning? What is like to be an engineer in the land of planning?

Interviewing Carmen Amelia[4] was in itself an interesting experience. Self-confident, expressive and good humored, she had as many questions to ask me as the ones I intended to ask her. Fair enough. Being my ever polite self, I offered to answer the first one, and she had it ready: "You had 40 people to choose from. Why me?"

Engineering background: asset or liability for a planner?

The main reason I had was precisely her background. She has a degree in Computer Engineering, among others, and worked as a consultant in the private sector. As it happens, Computer Engineer is one of my hats, and a consultant job for

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4 Original interview in 1991

a private company left once my mind playing for a while with the idea of making a career of it.

These similarities may seem at first the worst possible criteria. The fact is, I frequently see myself, or better, someone with my background, as a rare specimen in the land of planners. Many times I hear DUSP students, alumni and guest speakers talking of engineers as people with propensity to technocracy, too narrow focus, and other diseases that make them bad planner material (even if my colleagues are kind enough to let me know that they think I am an exception...). It is not by accident that the Department of Planning is glued to the Department of Architecture. But here was a Mason fellow, therefore "legally classified" by DUSP as a planner, with apparently a similar background. It was too tempting to let it pass.

So I passed the hot potato to her. Did she perceive her engineering background as an asset or a liability in her work? She thinks it is an asset. In her view, to be an engineer in Venezuela is more prestigious than in the USA, because it is difficult: "People who can't make it through engineering school go away and take [courses like] business administration, and while Venezuela doesn't have a top-notch business school like Harvard, it has a top-notch engineering University".

Surprise, surprise. What I really meant was whether her engineering expertise had helped her - or handicapped her - in her work as a planner. But for Amelia the issue was also the *image* an engineer projected, and how it was perceived. I would like to think that the question I asked is more relevant than the question she answered, but unfortunately, she might be right. In a society where even governments spend more and more in marketing techniques to improve their image, the measure of success becomes more and more the measure of the *perception* of success.

An agent of change...

Learning more about Amelia's background, however, made me understand that her's was not an empty image. While obviously proud of her engineering degree, she described a trajectory from engineering to organizational behavior. After her BS in Computer Eng. and in Mathematics in Universidad Simon Bolivar, Venezuela, she worked for IBM 2 years as system engineer, helping clients to develop applications. Then one year working for Arthur Anderson's consultant firm in Venezuela (AA), developing information systems. Transferring to Tulsa, Oaklahoma, USA, she did an MBA at the local University. Back in Venezuela, she remained 5 years with AA, doing profit improvement analysis and organization

structure charts. Afterwards, she worked for Coopers & Lybrand (Venezuela branch) for 2 years, being offered a partnership. In 1989, she came back to USA to study psychology and organization behavior, got a MA in Psychology at BU, and was admitted to the Kennedy School as a Mason Fellow.

Before moving on, I pressed her a little more. Yes, but did she think of herself as a planner? "I see myself more as an agent of change", she said, "to change things for the better, and for me planning is the necessary first step to achieve directed, guided changes, otherwise it would be chaos". But, she continued, "a plan in itself could be just a document that someone shoves in a drawer, so for me carrying through is really important".

Implementation-driven planning: an engineer-alike approach?

This emphasis in "carrying through" the plan, which I share, brought to my mind the view of Desmond McNeill, that offers "... *an alternative planning process, based on a more realistic view of the context in which urban planning agencies operate, and attaching first priority to implementation*". He goes further, stating that "*Planning with implementation in view requires a very radical change in both the methodology and institutions of urban planning*" [McNeil 85].

It is interesting that McNeil's methodology has for me, and for Amelia, a striking similarity to what we call an engineering approach.

Says McNeil, "*Rather than elaborating and analyzing in detail the objectives in view and then seeking means to achieve these ends, the planner should begin with a critical review of the instruments available - the powers that the public sector possesses to bring about change, and the power of the planning agency to influence the public sector*" [McNeil 85]. Similarly, an engineer designing an electronic device, rather than applying analytical methods to identify the optimal components to buy, and then search for these components, which may very well not be available, will first seek to know which components are currently available in the market, and then proceed to design the best possible device within that constraint.

Does this mean that planners with engineering background are more likely to adopt this methodology - planning with implementation in view - than other planners ? This is probably stretching things a bit too far, but maybe such a provocative question will bring us interesting answers from planners with a different background. I believe, however, that while a planner needs a broader

perspective than the narrow technical expertise typical of engineers, the planning profession can make good use of the no-nonsense engineering approach.

Class interests and choices in the planning process.

We can go one step further by looking at this the other way around: why (some) planners shy away from tying planning with implementation? And here I disagree with McNeil's "cynical theory". For him, those planners fall either in the category of "blind planners" (unaware of conjuncture) or "cynical planners" (aware that the plan will never be implemented, by lack of conditions). People would fall in one or the other of these categories by choosing a bad methodology. That seems rather simplistic to me.

In the real world, the difference between implementing or not implementing a plan, is often the difference between maintaining the status quo or changing it. If I make a plan to divide the land of a latifundi into a thousand plots for poor peasants, I am serving the interests of the poor peasants; but if the plan is not implemented, either because it was not feasible, or because I didn't care about the implementation, I am in fact serving the interests of the rich landlord. Are planners "blind" and "cynical" because of a methodology or because of class interests?

I wanted Amelia's thoughts on this, so I asked her to elaborate on what a planner is or should be. In her own words, "A planner should be someone who is out there; contrary to people who see planners in a penthouse somewhere thinking, I think they should be out there in touch with what really is going on. Then, they should be very creative people, who can transform that reality, come up with a vision in their mind of how to transform it. But it has to be based on reality; the planner should be able to make a plan that is also realistic and can be carried out. Planners should be people that have done real projects, because if not the plan is going to be like 'pie in the sky' and not a realistic think".

While agreeing with her, I still think that there is more to it. What about social commitment? Whose interests are the planners promoting? Doesn't it matter the planners' ideology? And who pays them? And what class interests control those who pay them? But there is a very good point in her view: planners "should be out there in touch with what really is going on". And I think there is an inseparable link between my point on social commitment, the implementation-driven concept and this need for contact with reality.

Ernest Alexander said that for the practice of plan-implementation, "*there is a need to mobilize a political constituency for proposals and to generate the public commitment needed for successful implementation*" [Alexander 86]. Who is afraid or unwilling to do so? Interesting enough, we can find an answer for this question in Venezuela's Ciudad Guayana case. While living on the (target) site, when most planners remained in Caracas, Lisa Peattie writes that "*It made for a different perspective and for different commitments. ... The planners were sensitive to the needs of the big companies they wanted to attract; the needs of my neighbors would have to yield to the big strategy.*" [Peattie 87].

Did this happen by accident? I don't believe so. In a previous article about the same project, Peattie says that "*there was no place for local participation in the planning process; indeed the general who was in charge of the development agency ... once declared that he only wished that he could put everyone under anesthetic until the city was completed*" [Peattie 86].

Is this phobia -- against local participation -- dissociated from the planning methodology? I don't believe so either. The same author refers that "*Planning was addressed to the ruling elites. Planning focused on decisions rather than actions*" [Peattie 86]. She also refers that the implicit perspective of the designers in the Guayana project was that "*planning is quite different from implementation*" [Peattie 87]

That is why I think that there is a link between social commitment (which class interests to serve), planning methodology ("blind", "cynical", or "with implementation in view"), and planning style (be "out there" in the field, mobilizing local participation, or be "in a penthouse somewhere" close to the corporations' offices). Conservative forces can certainly plan "with-implementation-in view" to promote projects of their interest. However, stalling implementation, keeping the status quo, plays generally in their favor. This is rarely true for those planners who side with "The Wretched of the Earth".

Engineering background: the wrong question.

Does this link (social commitment & implementation-drive) mean that planners with an engineer background will be more likely to side with the poor than with the powerful? Everyone is ready to dismiss such an absurd inference. The catch is, the opposite view is equally absurd; yet, some critics of the "short-sighted engineering perspective" in planning hint no less.

Think about that next time you hear someone discussing whether engineers give better or worse planners than architects (or economists, anthropologists, etc). It reminds me of Pauli 's famous sentence (mind you, not an engineer, but a physicist): "This theory is totally useless. It's not even wrong!".

After the long conversation with Amelia, I felt many points of identity with her perspective. It can be said that this happened because of our common engineer background. Both of us felt strongly about implementation being at the center of a plan. Both of us wanted to *act* "out there", to improve things.

Yet, for Amelia the improvement of Venezuela's infrastructure services (like water, etc) meant making it more profitable, increase productivity, by means of a mixture of privatization, layoffs and competent management. For me, the same infra-structures should be regarded as a public service, to serve the needs of the people, not a business where you invest or not according to the market laws. For me, things are improved when there is less unemployment, and not necessarily when there are more profits in the private business. And since I don't buy into "trickle-down" theories, I don't believe that more profits in the private business are the sure way to get more jobs, etc.. But I know of many architects, not to mention economists, who think like Amelia. So the main issue is not the professional background one has, but what are we going to do with it; how are we going to use it; what are the implications of our choices; which interests are we siding with.

This is why planners need a broader perspective than technical engineering expertise. But the same applies to other backgrounds. That's why Planning is an independent discipline, as well as an interdisciplinary domain. That's also why it is so important that planners be recruited from a diversity of backgrounds; each one brings with them unique approaches to planning. An engineer in the land of planning is no exception.

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