Werkstattgespräche: Histories of Planning

20 May, 10:30-12:00 Tiago Saraiva: Cloning California: Oranges, Genetics, and the Mediterranean

You are about to hear the fifth interview held as part of the working conversation series "History of Planning" presented by Department III Artefact, Action and Knowledge at the Max Planck Institute for the History of Science, Berlin. The interviewee is Tiago di Saraiva, Assistant Professor, History and Politics, at Drexel University, Philadelphia. He is author of Fascist Pigs: Genetics, Industrialized Organisms, and the Building of Fascism] and currently explores oranges' role in globalizing California in the first half of the Twentieth Century.

Questions are asked by Dagmar Schäfer and Nina Lerman.

Dagmar Schäfer: Today is 21st May 2014 and we have Tiago de Saraiva with us. Tiago, you came to us yesterday with a really wonderful new project. You have been writing very much on plans already in your forthcoming book onFascist Pigs [sic! Tiago Fascist Pigs: Genetics, Industrialized Organisms, and the Building of Fascism]. Yesterday and today, youhowever, talked about oranges, [or more specifically:] Oranges in California. My first question is: How does a farmer plan an orange to be or to have the perfect round shape? What does he have to do?

Tiago de Saraiva: There is no perfect round shape, The big issue here is size. Size is the big thing. Oranges are graded in packing houses by their size more than shapes and what they have to do in order to produce the shape [wanted by] the American markets and the ones the producers now have decided pay more, is to cultivate oranges mainly from very specific, from very identified origins. It's not only the variety that they have to control, but it's also what are the parent plants, how they choose them. Namely there is a budding program organized by the grower's cooperative that distributes among orange-growers the proper buds which they can then graft onto a rootstock. The tree that comes out of it [i.e. these rootstocks] is actually the one that should produce the kind of orange that is prized by the market.
I think there is something interesting for that in the question of how the Californian orange-story relates to planning in general. And the thing is, it's typical in orange-stories previously California, what you have. Before California other places in the world controlled, or dominated the market, for example, the Azores in Portugal, the Azores Islands in the middle of the ocean, the Atlantic Ocean. They were until the 1870s the main suppliers of oranges for the British market. Then a fungus disease destroyed all their rootstocks and the orange business in the Azores disappears, traveling to California. What is so interesting about the Californian case is that -- although we tend to focus in scientific and technical work on innovation, constant innovation – here it is all about maintenance. It is all about not happening the same as it happened in the Azores or in the other parts of the world. It's all maintenance work. They do some work in getting varieties, that's part of the work, but it's not main part of the work. Main part of the work is how to keep the Washington Naval and [Osca] Valencia, which is the second, the other variety that they cultivate, but mainly the Washington Naval – how to keep it going. They [i.e. the orange farmers in the co-operations] do everything to keep these oranges on their standard – standard being defined as the orange that they have determined as the orange that they are going to sell and that they are making money on. All efforts are focused on maintaining the Washington Naval.

In maintenance we hence have three big issues: it's pathologies, it's rootstocks and it's varieties, i.e. the budding. The constant work that scientists are doing, it's either to standardize the budding, choose a proper rootstock, and the constant struggle against the pathologies coming in. This is the constant [maintenance] work being done there. Biological control is one of the novelties that comes out of Riverside, i.e. of the southern-Californian experiences with oranges.

It has been developed directly to fight pests from the orange. The director of the experiment station is the first one to coin the term "cloning" – because cloning is one of the crucial practices for both the rootstocks and for budding. And that's why the actual cloning is an essential dimension of the practices at the California station for orange production.

Dagmar Schäfer: One of the other things that histories of planning does want to do is not so much looking at planning but emphasizing the fact that the dynamics of knowledge are much more subtle and that especially in this process that you are for instance describing and that you highlighted several times as "maintenance" something crucially changes. That is why I was also asking this question about the relation between science and the lcoalities in which it is enacted. I think it's really great that Stewart [Allen] brought up the issue of materiality in this context. Because at one point you start to ask yourself: Are the scientific practices the same? With locales, the social realities definitely are changing. But aren't the materialities of the places you were talking about, Algeria, Palestine, California and the other places you were mentioning – also really different? These places kind of share climatic characteristics, but they are also really distint. Then, what is with the scientific practices? Is it something that really remains the same and what of that actually remains the same? What of that changes and where are the changes and when are the changes crucial? When is maintenance turning into innovation and does it really make sense to distinguish between maintenance and innovation?

Tiago Saraiva: I would say it doesn't make much sense. Much of the maintenance work, is a constant process of innovation. Interestingly enough, of course, that has been described when scientists make narratives about their great work in sustaining California, of course, they always talk about innovation, innovation, innovation – it's the buzzword. But we can, I think, reframe much of it as maintenance.

Dagmar Schäfer: Just as a curious addendum to this. The question is: In your case with the oranges is it then also innovation when it goes to Algeria or is it then turning in the actor's minds into maintaining and repetition?

Tiago de Saraiva: That is an interesting thing with every cultural science. It is the local nature of the work. You actually need to do the work of growing oranges locally: you have to choose the bud and the rootstock: You need a local experiment station in these places, at least this is how it proceeded historically. You always needed an experiment station to give an account of local ecological conditions. And if that's the case, it is not seen just as a repetition. In fact it is seen as that they are bringing Californian methods of 'doing things' [to this palce]. The novelty is in the production of this thing locally. This is the novel part of it, that it is not just a reproduction of Californian. So there is something new that is going on there.

Nina Lerman: Since one of the themes that you probably saw in the 'Histories of Planning' program is the one called 'Scale and Scope' and it's really clear that for your historical actors the idea of the small farm, the idea of the orange, the coop as a way to coordinate between small farms and therefore create standards and make sure that scientific knowledge is disseminated as well as being produced, from the experiment station and then have the dissemination system of the coop. But is there a reason why, once that science travels, somebody couldn't buy up 15 small farms and say: I'm agribusiness, can I implement the science the same way? Does it depend on the scale? Can I scale up that science? Has anybody tried? Some people were asking about that for sort of later in the 20th century on the scale of Florida orange juice. So I'm wondering about that and the Washington orange.

Tiago de Saraiva: Yes, they can be used and they have been used to make other kinds of social formations. So, you just mentioned Florida, Florida is a good case, where much of the science was imported from California. And in the 1930s they were starting to compete almost at the same level as California, with a very different kind of social system where coops have no role at all, and so it was big orchards. I would say parts of the science can travel without the need for social formation, that is true. Now, interestingly enough, the science was developed together with the coop formation.

In the transition of the 19th to 20th century all is about recording operations. In the coops we have a performance report of every tree in the orchad. Each grower in the cooperation has a file for each tree, specifying how much it produces. All this information is gathered through the coop. And then the scientists do the statistical work, identify the trees that are more interesting, and from there they start to take the buds. The main scientist responsible for this work called this procedure cooperative improvement of the Washington Naval. In that sense, scientific and other knowledge production is linked up with social formation already in place. And certainly the knowledge identification then re-enforces such sort of social formation. The more science you do, the mores research you do this way -- at least at the UC citrus experiment station it was like this -- the harder the coop system becomes. [Scientific practice] hardens the coop as there is another thing into which the coop system intervenes. We can see this with new practices that were introduced to fight the Blue mold funguses. These practices reinforce the practice/presence of the coop. The buds, the same. The rootstocks, the same. This connectivity is growing. It is neither the science nor the coop alone that are stable stand-alone entities. Instead they are reinforcing each other in a kind of co-evolution between the scientific and the social.

End of interview