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## Book Review

### Technology, objects and ideology in the Francoist Spain

Camprubí, Lino, *Engineers and the Making of the Francoist Regime*, The MIT Press, 2014. 312 pp., ISBN: 9780262027175.

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Both as a (cutting edge) piece of scholarly work in the arena of the History of Technology and as a (very refreshing) contribution to the much debated History of Spain during the years of the Francoist regime, Lino Camprubí's *Engineers and the Making of the Francoist Regime* makes a not so usual read within either academic milieu. Indeed: a relatively good wealth of research has been devoted lately to the development of science and technology within the context of the various undemocratic political regimes of the 20<sup>th</sup> century, thus challenging the over-simplistic idea that science (or even a *well-orientated science* as Philip Kitcher would have it) keeps a privileged relationship to democracy. That this needn't always be the case is something that a good deal of research work has made evident over the last two decades. Ranging from the pioneering narrative by Mark Walker on nuclear energy research in national-socialist Germany during WWII to the many/multitude of contributions about the "fascistization of science and technology" put forth by Tiago Saraiva, an increasingly respectable amount of scholars have located the focus on the avenues through which *real science* (perhaps sadly: one no *so well orientated* as Kitcher would hope for) interacts with the social and political contexts in which real scientists do, in fact, operate.

However, while the cases of Germany (Mark Walker, Monika Renneberg) and Italy (Michele Benzi, Jean-Guy Prévost) have been explored in good length, other scenarios had hitherto received less systematic attention for many reasons. Still, some case-studies are presently being pursued in relation to a number of authoritarian or *semi-fascists regimes*. This includes, among a variety of others, the following milieus: the military regimes of Argentina (Diana Maffia and Miguel Jacovkis), António de Oliveira Salazar's Portugal over the "Estado Novo" decades (R. Cleminson, Maria de Fatima Nunes, A Simões among others) or even Vichy France, Hungary or Romania between the decades of 1930s and 1940s. In that respect nonetheless, the role of science and technology in the political, economical and social fabric of the Francoist Spain remains a relatively unexplored territory so far. It is possibly not one of the minor merits of Lino Camprubí's book the fact that the case studies its chapters encompass do cast light on a much neglected historiographical context. And it does so with very valuable erudition and solid historical detail.

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Perhaps the best way to capture what is new to the manifold signification of the book would be to interpret Camprubí's analysis as lying in the intersection of two historiographical planes which, notwithstanding their multiple points of intersection, need to be kept conceptually separate with meticulousity. Namely: the political and economical History on the one hand and the History of devices which has been in the center of the attention of much recent research in the studies of science and technology on the other. If I am not mistaken, one of the most relevant conclusions of the book (and one, no doubt, that may prove striking for so many) is that even though both planes are distinct in nature, they are also to be thought together in any particular social and historical context. This is not to quarrel with the established divisions of the academic work or to jeopardize anybody's pet compartmentalization in that respect, yet it is good to bear in mind that in very much the same way as there cannot possibly be a history without technologies, there cannot exist objects lacking a history either.

To a large measure, it is to flesh out such twofold thesis statement that Lino Camprubí surveys in great detail the role of the engineers in the development of the francoist regime. In so doing, the book demonstrates aplenty not just that technicians acted as politically directed agents fueling the construction of a totalitarian state (a statement which, albeit trivial, is in any case true, also) but that both they and the objects they designed contributed to shape the very landscape of the territory of the regime in question in ways that far surpassed the purported totalitarian nature of its political fabric. This obviously does not diminish the political content of their work but on the contrary shows how engineers in conjunction with other groups of interest gave rise actively to that political content by means of the particular artifacts they were conducted to craft.

The book consists of a number of independent case studies which can be read in isolation. The range of topics examined includes an ample array of issues from the establishment of the *Instituto Eduardo Torroja de Ciencias de la Construcción* in the immediate postwar period (chapter 2) to the application of design standards to the production of prestressed steel and concrete in the 1950s which according to Camprubí's cogent argument went hand in hand with the political transformation of the francoist regime into what the author describes as a regulatory state, much along the same lines with many other European countries of the day (chapter 6). In addition, the book also explores how research in genetics and agronomy shaped rice production in the first years upon the end of the war (chapter 4) and the way in which large-scale projects for landscape design were actually made to interact with the national catholic views on such notions like "redemption" or "autarky" to redefine the geography of Spain. Finally, a worth reading introduction is added that in conjunction with the conclusion provides the background against which the aforementioned analysis of particular episodes and technologies are to be understood.

There is more to the book than just this however. It is good to note that while each of the chapters makes perfect analytic sense individually for they all provide very valuable in depth reconstructions of various sides of the Francoist regime in its relation to science production and technology design, there is also a big picture to be found here. The moral behind the story(ies) is one that helps connect every individual case study to indicate not just that artifacts have their own politics, to put it in the words of Landgon Winner, but how political notions are made concrete (*in the dual sense of this term: both as a noun and as an adjective*) by physical artifacts given rise by science and technology production.

This much may sound as a drop of *historical materialism* in the most over-simplistic fashion conceivable (or even worse: a pinch of *technological determinism*) and there might surely be those wondering skeptically if to dismiss the role of political ideas in the analysis of political history treating them as epiphenomenal superstructures makes an adequate hermeneutical strategy. Perhaps the best answer to such concerns would be to sustain that even though they are undoubtedly right in ascertaining the perils of a reductive approach to political and economical history, there is however no need to worry on this occasion. Not that Camprubí's purview ignores Reinhart Koselleck's approach to the History of concepts (*Geschichtliche Grundbegriffe*), yet what his account shows effectively is that while concepts need to be embodied by objects or other sorts of concrete categories if they are to shape the world around in an active manner, artifacts can only be appropriately understood in light of the ideas they are designed to convey. Whatever the case, it is key to notice that, as much as Camprubí demonstrates by examining the variety of historical scenarios his book addresses, abstract ideas (whether of political, theological or theological-political nature) far from acting as passive superstructures directed from outside, do make a sense of the very technologies they verge upon.

Likewise, it would be too easy to assume that in such contexts as the postwar Spain, engineers were bound to play a purely passive role as technicians dominated by the political power of the state. There is certainly a kernel of truth to this roughly *foucaultian* assessment at least so long as technology cannot be thought of as developing in a political vacuum. This said however, one would do well to remember that the devil is in the details: *Engineers and the Making of the Francoist Regime* provides solid grounds to conclude that the wealth of historical evidence at hand regarding how Spanish engineers acted in their political milieu may be read backwards, too. This is obviously not to say that engineers were politically all-mighty agents (for it is clear that they were not) but in spite of all the limitations their actions had to meet over time, one of the most recurrent conclusion of Camprubi's lucid narrative entails that they did implement plans of their own, even if those plans were often carried out in conjunction with other competing groups from within the regime.

There is yet another lesson to be learnt from the book which pertains to the History of Spain during the Francoist years. Something that incidentally should also be taken into account when discussing totalitarianism in general: just because both some of the proponents of the regime inside and many of its enemies outside (and for that matter, inside, too) used the term "totalitarian" to describe Francoist Spain, that hardly makes such category an analytically accurate one when it comes to explore the historical reality of the state in question. Granted that francoism scarcely qualifies as a pluralistic political society the way we understand that term nowadays, yet, undemocratic as the regime was (*though not from inside its proponents' mindset*), the power was as plural as the number of the interest groups competing to direct the design of the nation.

Very much the same applies also to a plurality of ideological notions ranging from "autarky" to "traditionalism" or "corporatism". They may well have defined the manner the regime framed itself in. What is more: the fact that they did so suggests that such self-representations are way too productive politically to be diminished as "superstructures". But none of this should be reason to mistake what the agents acting in any social situation believe they are doing for the historical reality of what they actually do. Lino Camprubi's book shows with a precision that should not go unnoticed why this is so.