# The Fascistization of Science

*By Tiago Saraiva*[*]

The current issue of HoST explores the polemical relation between science and fascism. In addition to the traditional aim of revealing the changes in scientific practices following the establishment of fascist regimes, it delves as well into the role of scientists and engineers in conceiving and materializing new political and social designs. By shifting the centre of attention from antiscientific practices to the work of the many scientists involved in the construction of a fascist society, historians started to produce already in the 1980s relevant accounts of the importance of scientific institutions for Nazi Germany.[1] As scientists and engineers adapted their practices to the opening up of opportunities as well as the imposition of restrictions by the new rule, political dreams were enlarged by technological innovations and laboratory work. Such approach proved highly productive as asserted by the copious literature that came out of the research program fostered from 1999 to 2004 by the Max Planck Society on the "History of the Kaiser Wilhelm Society in the National Socialist Era". [2] Although such research offered a complete renewal on the understanding of science and Nazism, a more general comparison with other fascisms was never tried.

In this volume of HoST the Nazi case is placed side by side with Mussolini's regime as well as with Salazar's dictatorship in Portugal. If general historians dealing with fascism find much attraction in comparative perspectives, historians of science and technology have not yet faced the challenge of confronting simultaneously different national experiences with fascism. There is much talk of a new consensus emerging among historians on the meaning of fascism, famously summarized by Roger Griffin as a "palingenetic ultra-nationalism", a force "ideologically driven" to "create a new type of post-liberal national community that will be the vehicle for the comprehensive transformation of political, social and aesthetic culture, with the effect of creating an alternative modernity."[3] This consensus, although unsurprisingly not shared by each and every historian, had the virtue of offering a general framework for dealing with fascist ideology and movements in different contexts and opening up the field for cross country comparisons. A short look at the contents of the journal Totalitarian Movements and Political Religions, the main written vehicle of the referred consensus, is enough to demonstrate its fruitfulness.

Now, strictly following historians of generic fascism, there is an important difference between regimes rising from successful fascist mass movements, as in Italy and Germany, and those authoritarian dictatorships of the inter-war years, such as Salazar's and Franco's regimes. Only the first two should be considered properly as fascist, while the others, in the best case, were to be included in the category of para-fascism for not having the revolutionary ideological vision of proper fascism. As Aristotle Kallis has convincingly argued, such distinction between para-fascist and fascist is very problematic when considering "that the two most developed regimes (in Italy and Germany) resulted from elite co-opting, initial co-habitation with conservative sponsors and consolidation from within the framework of the existing state (rather than a revolutionary break with the past, as fascist ideology would have demanded)".[4] In other words, if one pays closer attention to the actual historical nature of regimes at work, and leaves aside much of the common obsession with fascist movements and their radical ideologies, the sharp distinction between fascist and para-fascist regimes looses most of its relevance. Following Kallis, the process of 'fascistization', either from above directed by traditional elites, or from below demanded by radical fascist movements, is the key phenomenon historians should be looking at.

This demand for greater historical sensitivity to regimes rather than just to ideology resonates nicely with the above mentioned tendencies among historians of science dealing with Nazi Germany. Only by delving in the actual historical dynamics of fascist regimes is one able to grasp the relevance of scientific activities for the experience with fascism. Such trend has a fine example in Thomas Wieland's paper in the present issue, "Autarky and Lebensraum. The political agenda of academic plant breeding in Nazi Germany." Drawing on an analytical framework proposed by Mitchell G. Ash in 2002, Wieland explores the mutual resources exchanges between the realms of academic plant breeding and politics in the Nazi years. He importantly demonstrates how the growing role of state sponsorship of plant breeding can only be understood by taking into consideration the history of the discipline prior to the Nazi seizure of power. The agendas of autarky and lebensraum, or at least colonialism, were already important for plant breeders much before 1933 and they had no problems in seizing the opportunity of putting them into practice under a new regime cherishing both concepts. Plant breeders had of course previous experience of state sponsorship, but drawing on those two key issues the relations between scientists and political regime became much tighter with increasing exchange of resources and with plant breeding achieving a notable status in the eastern expansion of the Reich.

Tiago Saraiva, in his paper "Laboratories and Landscapes: the Fascist New State and the Colonization of Portugal and Mozambique", also underlines the importance of tracing back the genealogy of food and energy autarky projects to properly understand their role in the institutionalization of the fascist regime. The laboratories he deals with are very good examples of the ability of scientists to make their work relevant for the political agenda of Salazar's New State. Saraiva looks at the ways laboratory artifacts such as new strains of wheat and cotton, and models of dams, changed Portuguese and African landscapes according to the regime's colonization policies. He suggests that the contrasting political allegiances of the different scientists didn't hinder their active role in the New State endeavours. Never mind they were enthusiasts, indifferent or opponents, they all forged strong alliances with the corporatist state structure, materializing their new relation in profound changes in the landscape.

This view is somehow divergent from the one offered by Júlia Gaspar, Maria do Mar Gago and Ana Simões in their paper "Scientific Life Under the Portuguese Dictatorial Regime (19129-1954): the Communities of Physicists and Geneticists." By focusing in a different set of scientists the authors illuminate the many difficulties in pursuing scientific activities under a dictatorial regime and the exposure of the scientific community to political persecution. Nevertheless they also identify the constant search of both physicists and geneticists to present themselves as important actors to the State. If the latter seemed to have been quite successful already in the 1930s, the first would have to wait till the 1950s and the nuclear energy project to be granted a research institution they had been claiming for many years before. Instead of making a general claim about fascism and science, the paper stresses the importance of taking seriously the regime's historical dynamics to understand the success or failure of different scientific research agendas. This is only more important in the Portuguese case with its long dictatorial regime inaugurated in 1926 and overthrown in 1974.

Interestingly enough Júlia Gaspar, Maria do Mar Gago and Ana Simões, as well as Tiago Saraiva, also make use of Mitchell Ash's framework of "resources for each other". If general historians strive for a new consensus for the study of fascism, it doesn't seem exaggerate to risk that for historians of science Ash's "resources" have become a very fruitful way to intertwine science and fascism in a dynamic relation. If with the previous mobilization metaphors we had passive scientists limited to answering political powers initiatives, we now have scientists that actively strive for the establishment of stronger ties with the new regimes. And although Roberto Maiocchi in his paper, "Fascist Autarky and the Italian Scientists", doesn´t use Ash, his narrative details the enduring efforts of scientists of the National Research

Council (NRC) to develop lines of research in tune with two major endeavors of Mussolini's regime: autarky and empire. Maiocchi coincides with all other authors in the importance of previous relations between scientists and the state, namely those carved during the First World War. Fascist years ought to be understood as a tightening of such relations with particular support for those projects able to resonate with issues of autarky and empire. Now, Maiocchi's story is one of clear failure, with the NRC never making any serious contribution to the autarky efforts. This is only more striking when thinking that the Italian story is probably the one where scientists were more willing to align their research with the regime's policies. For independently of judgments about failure or success of the NRC it is remarkable the enduring effort of its scientists to make themselves useful for a regime that had many doubts about how to mobilize them for its interests. This is a clear case of auto-mobilization, with NCR scientists not being able to actually offer any significant resources to the fascist regime.

These four papers are of course insufficient to draw any definitive conclusions about the contested relation between science and fascism. Nevertheless this first confrontation of different national experiences with fascism point to at least four important common features: i) continuities between research programs undertaken previously to the fascist seizure of power and afterwards; ii) tighter integration of science and state under fascist rule; iii) strong auto-mobilization of scientists willing to prove useful for the regime iv) autarky and empire as key issues for the 'fascistization' of science.

The volume closes with a paper by Mark Walker on "Ideologically-Correct Science: The French Revolution", based on a thoughtful reading of Charles Gillespie's work on Science and Polity in France.[5] Such closing may look odd for an issue dedicated to fascism. Of course that any historian familiar with the scholarship on science and Nazism will immediately recognize the name of Mark Walker as one of the main experts in the field. Suffice to recall the edited volumes we already referred to or his work on the Nazi nuclear program.[6] And the truth is his contribution to the current volume of HoST is of great value to anyone dealing with science and fascist regimes. This paper is part of a wider project of comparing "ideologically-correct science" (ICS) in the context of the French Revolution, the Russian Revolution and subsequent Stalinist regime, National Socialism in Germany, Imperial Japan during the Second World War, the McCarthy period in the United States, and the Cultural Revolution in Communist China. Walker has no doubts in concluding that the main lesson from ICS is the tighter integration of science and the state in all those different contexts. This of course resonates very well with the rest of the papers in the volume. But maybe more important, by

dialoguing in such depth with the work of Charles Gillespie, Walker also challenges all those historians dealing with science and fascism to entail a dialogue with the rest of their discipline. General historians have abandoned long ago the thesis of fascism as an exceptional event of Western history, totally out of context of our experience with modernity. Walker seems to suggest that the time has come to leave behind exceptionalism in the historiography on science and fascism, inscribing it instead in the canon of the history of science.

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[1] See namely, Herbert Mehrtens, "The social system of mathematics and National Socialism: a survey", Sociological Inquiry, 57 (1987): 159-187. Such approach for dealing with science and Nazism is dominant in the influential volume, Monika Renneberg and Mark Walker, eds, Science, Technology and National Socialism (Cambridge University Press, 1994).

[2] For an overview of the results of the research program see, Susanne Heim, Carola Sachse and Mark Walker (eds.), The Kaiser Wilhelm Society under National Socialism (Cambridge University Press, 2009).

[3] Roger Griffin, "Introduction: God's Counterfeiters? Investigating the Triad of Fascism, Totalitarianism and (Political) Religion", Totalitarian Movements and political Religions, 5 (2004): 291-325

[4] Aristotle A. Kallis, "Fascism, Para-Fascism and Fascistization: On the Similarities of Three Conceptual Categories", European History Quarterly 33 (2003): 219–249.

[5] Charles C. Gillispie, Science and Polity in France at the End of the Old Regime (Princeton: Princeton University Press, 1980); Charles C. Gillispie, Science and Polity in France: The Revolutionary and Napoleonic Years (Princeton: Princeton University Press, 2004).

[6] Mark Walker, Nazi Science: Myth, Truth, and the German Atomic Bomb (New York: Perseus Publishing, 1995).