Technology and totalitarian ideas in interwar Greece

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This paper is an account of modernity, technology and totalitarian ideology in interwar Greece. We argue that the challenge of modernization and technological development of the country was the starting point for the emergence of technocratic ideas strongly connected with nationalism, a kind of a Greek technonationalism. Scientific objectivity, technological efficiency, rationalization, were to be part of the "eternal" national essences, and they were conceived as key elements for the rapid modernization and westernization of Greece. The instrumental idea of progress, as well as the requirement for technological development, was gradually correlated with criticisms of economical and political liberalism and the rise of control and totalitarian ideas. The anticipation for an effective organization of society should be assimilated trough homogenized standards of factory production. As stated by the sociologist P. Wagner, the image of the society as a machine was a rather trivial idea for the time and the "iron cage" metaphor didn't represent a social threat.[1]

The Greek Republic and its emerging civil society, the economical and political crisis in the beginning of the 1930s, the dictatorship in 1936-1941, provide the framework within which the rise of tensions about modernity and technology took place. In a schematic way, we can understand this ideological course with respect to ideas about rationalization, technology and modernity as a trajectory from liberalism and moderate corporatism to the orthodoxy of technocracy, and from there to a Greek version of a so-called reactionary modernism.

After the Balkan wars and the First World War, Greece no less than doubled its population and territory.[2] The expansion of the country was translated in the expansion of public works, new structures of administration and expansion of the engineering professions. All these were strictly connected with the modernizing visions of the Liberal Party and its leader - Eleftherios Venizelos- as well as with those expressed by the Army that actually dominated the country from 1910 to 1932.

A brief political account is necessary in order to sketch the general context. Venizelos first came to power in 1910. The social and political reforms of liberals as well their strong irredentism, in respect of territorial expansion of the country in Asia Minor and Thrace, where

Greek population lived, resulted in a strong political dispute with the Greek monarchy and its political adherents. In 1915, Venizelos confronted King Constantinos regarding the participation of Greece in the World War I; this conflict resulted in the expulsion of the liberals. The latter resumed power in 1917 with the decisive intervention of the western allies (Entente). In 1920, the conservative coalition won the elections. In 1922, the conservatives were again overthrown after the defeat of the Greek army in the Greek–Turkish war and the violent expulsion of the Greek population from Asia Minor by Turks nationalists, under the leadership of Mustafa Kemal Ataturk. In 1924, the coalition of liberals, having the support of the army, abolished the monarchy and established the Greek Republic. The turbulent starting point of the Republic stamped its short life. From 1924 to 1928, 9 parliamentary governments, 6 military coups d'états, and one dictatorship took place. In 1928, Venizelos again became Prime Minister and ruled the country until 1932.[3]

The institutional landmarks of the period in the field of technology, public works and industrial development, were the establishment of the Ministry of Transportations, the rise of the Polytechnic School of Athens to the Academic level, and the establishment of the Technical Chamber of Greece. These three institutions, strongly correlated, were to become the main official representatives of the technocratic ideologies in its variety of versions during the interwar period.[4]

The Ministry of Transportation was established in 1914. The new institution reshaped and extended the state bureaucracy introducing modern regulations in regard of administration and construction of public works. The upgrading of the Public Works Administration to the level of a Ministry became the symbol for the upgrading of the social role of engineering professions. In this context the main problem was not any more just the railways, the electrification, the reclamation or the road construction projects but the management of the emerging and extremely complex political society according to the rational terms of engineering.

In that same year the Polytechnic School became the academic equal to the University of Athens and was renamed National Technical University of Athens (NTUA). According to the new regulations, which were applied gradually until 1917, five separate schools were established. The School of Civil Engineers, the School of Mechanical and Electrical Engineers, the School of Chemical Engineers, the Architecture School, and the School of Surveying Engineers. The NTUA, under the leadership of a group of professors who had studied in Germany, would adopt the German model of higher technical education.

The momentum of the engineering profession was intensified by the emergence and the development of the first professional engineering institutions, which in 1923 led to the establishment of the Technical Chamber of Greece. The Chamber was not only a corportatist organization with mandatory membership representing the engineering profession, but it was as well an official technical consultant arm of the state. The first role opened the way to the official closure of the profession at the beginning of 30s reinforcing its elite professional identity. The second inspired and legitimized the several versions of the technocratic ideal expressed by the Greek engineers.[5]

In this context, the technology issue was upraised both as the pioneer of progress and economic development, and as one of the main foundations of the social regime. At the end of the 20s the prominent liberal intellectual Giorgos Theotokas declared that "…in the Balkans which existed for many centuries as one country with an almost single civilization, contemporary Greece signs out of tune, throwing out at once all her Byzantines and Balkan traditions and questing for a new orientation...".[6] He was convinced that technology has hidden and unexplored poetic opportunities: "This 'materialist and banal' century hides in his unexplored soul much more poetry than our teachers believe. But, someone must attempt to discover it. It's time for risky sappers".[7]

Prime Minister Venizelos was also thinking that technology would be the foundation of economic development and social stability. A recurrent point in the Venizelian appropriation of technology was the following motive: the construction of infrastructures in rural areas of the country would increase the area of cultivable land. Such a development could increase national wealth and satisfy the peasants as well, empowering the country and the social regime. In this context, the peasants who constituted the vast majority of the Greek population would allegedly distance themselves from working class movements that menaced to undermine the social and political system.[8]

This positive attitude in respect to technology was materialized in the extended program of public works of Venizelos' government (1928-1932): a road network, land reclamation works, electrification, sewage systems, programs for public health and housing, and refugee's settlement projects.[9] In contrast, although industrial productivity steadily increased during the interwar period,[10] the extended industrial development did not appeal to liberals' major priorities.[11] Only when the Depression came to Greece, did the State decide to protect industrial production. Nevertheless, industry was not considered as the steam-engine of the economic

progress as it was mainly orientated to the domestic market and it was rather subjected to the agricultural development.[12]

The main stream in respect of technological development and industrialization of the period was expressed by a group of industrialists, under the leadership of a handful of engineers who had studied in the Polytechnic of Zurich (Eidgenössische Technische Hochschule). These men were closely connected with the establishment of the big chemical, cement, electrical, and construction industries in Greece. They decisively contributed to the social and institutional formation of the Greek industrialist class and they would eventually become the luminaries of Greek industrialization during the inter–war period.

This group praised the spirit of industrial rationalization and mechanization; they became the outspoken disseminators of Taylorist and Fordist ideas, and expressed the value of individuality strongly resembling the American entrepreunal ideal. They tried to pacify the fears of several social groups and to confront the critique of the romantic intellectuals, who considered industry and the emerging civil society as a threat to the social coherence. In doing so, the "Zurichians" and their friends adopted the ideological principles of social paternalism and contrasted it with the ideology of class struggle, which the Communist Party and the labour unions projected.[13]

In the beginning of the 30s, when the 1929 world economical crisis came to Greece, the same group tried to accommodate itself to the new framework supporting a type of directed economy, based on protectionism and state control. At the same time, the viability of the country and the question of industrial development came to be a crucial component in public debates. Those who defended industrial and technological development and advocated rationalization were challenged by skeptics for whom machines, industry, economic and political liberalism, were targets of an anti-capitalist and anti-industrial critique that had strong romantic hues. What fuelled the critique was the idea that Greece was, and ought to remain, an agrarian country. Giorgos Theotocas criticized once more the liberal ideas that were freely tested in Greece during this period. He wrote about the "mad decade of the 1920s", characterized by the "absence of any kind of moderation, any discipline and prudence in respect of politics, economy, ethos and cultural activities." According to Theotokas, economic liberalism, unbounded individualism, industrialization, and the sovereignty of machines resulted in a social disequilibrium. The crisis of capitalism led societies to the disease of communism which was presented as the apotheosis of materialism and the integration of society with Machine Civilization.[14]

In this context, the engineers intervened in an impressive way through a large-scale forum called "The major research for technical and economic issues" organized by the Technical Chamber. They declared the country's ability for a viable economic development through industrialization and rationalization of everything. This forum began in December 1931 and lasted for 5 months. It was attended by political parties' leaders, members of the parliament, while more than 40 politicians, economists and engineers from Greece and abroad presented papers.[15] The controversy took place in a context marked by strong critique against economical liberalism. The metaphysics of the market was replaced by the metaphysics of state regulation; the vision of liberal modernity was gradually replaced by the vision of control; and the value of individuality replaced by collectivity. The end result was a strong version of the autarky ideal, approaching a notion of economical nationalism.[16]

Already at the end of the 1920's, and especially during the crisis era, political reforms inspired by the ideal of control and restriction of classical liberalism were intensified.[17] The establishment of the Council of State had a prominent place in this set of institutional technologies. It was strongly connected with the requirement of the rationalization of state administration and politics, and it was expected to play an active role as mediator between the state and society.[18] The Supreme Economic Council, legitimized by the rhetoric of scientific expertise, was constituted to work as a supplement of parliamentarism in order to confront the complexity of the social conditions.[19] The other institution was the Senate, which was expected to guarantee political stabilization and to appease the social strife through a kind of corporatist representation of professions and social classes.[20] To complete the institutional framework, we should add the so called Idionimon Law, aiming officially to protect the social regime and to restrict communism. Other legislation institutionalized the compulsory state arbitration in cases of strike and lock-out, as well as the prohibition of public servants' syndicalism, aiming to harmonize the different social interests and to suppress the political expressions of the working movement.[21] Finally, in 1932, a constitutional reform, which was never realized, was orientated to the reinforcing of the government authority and the restricting of parliamentary jurisdiction.[22]

In 1932, the monarchists won the elections, opening the agenda of a strong political crisis, which ended the Republic and the parliamentary system in 1936. In any case, strong debates among intellectuals and politicians, representing the largest part of the political spectrum, stressed the inefficiency of parliamentarism to confront the crisis. The confrontation over parliamentarism or dictatorship became extremely strong in the political controversies of

the time. Between 1933-1935 three military coup d'états deteriorated the political situation and intensified the demand for authoritarian solutions.[23]

In this complex juncture new ideological syntheses were projected among engineers. The Technical Chamber of Greece, under the leadership of Nikos Kitsikis, a leading figure among interwar Greek engineers, elaborated an ideology that started from a modest corporatism in 1931 and gradually developed, by 1935, to a version of a technocratic totalitarianism, strongly resembling the orthodoxy of the Technocracy movement. The selected field for the fulfillment of this utopia was the real world of the state bureaucracy and public works – and the (approximately) 2000 engineers who worked there. According to this synthesis, state, profession, and science, were to be integrated in a unique rational apparatus which would claim political hegemony and guarantee the controlled modernization of the country in terms of rationalization and technological development.

The Chamber's rhetoric castigated the paralysis of the parliamentary system and the inefficiency of politicians who could not understand the rational dictates of the new machine age. Words and pictures filled the pages of the Chamber's journal, Technica Chronica, praising Fritz Todt's highways, Julius Dorpmuller's trains, Albert Speer's stadiums, and Mussolini's foundries. These artifacts were taken as the materialization of the progress ideal and political efficiency; they enabled the full integration of technology and politics and constituted an assertive argument for the pre-eminence of technocratic totalitarianism. By 1935 the idea was mature and the parliamentary system was overtly seen as an obstacle.[24] The solutions to the socio–political problems and the technological development of the country could be carried out only through social engineering and the establishment of a "Technical State", actually a rational dictatorship of engineers, which resembled Thorstein Veblen's and Howard Scott's utopias.[25]

The long term political and social crisis ringed out the end of the Republic and paved the way for the restoration of the Greek monarchy by late 1935, and after this to the dictatorship of Ioannis Metaxas proclaimed the 4th of August, 1936.

In the mid thirties the modest corporatism and statism were no longer enough to guarantee a way out from crisis and to legitimize the technocratic ideal. The contingencies of liberal modernity were getting more and more unbearable; at the same time, the return to the certainty of control was getting more and more fascinating to the social imagery. According to Theotokas "… the State must be ready to take up its major role in the political and economical life, to undertake more responsibility and to be more efficient in confronting the social

problems, to be emancipated from the misery of parliamentarism compromises in order to achieve the efficient management and the harmonization of the contradictory social interests"[26].

An emancipated ideal of economical and technological progress in association with a strong civil society looked now as dangerous as communism. The confrontation to materialistic modernity, perceived as the main cause of the crisis and social revolt, presupposed the subordination of technocrats to the power of national ideals and values. The ideological context of this subordination was based on a rich Greek traditional inheritance, and a variety of foreign ideological influences.

Many Greek engineers, namely those who studied in Germany, were influenced by what J. Herf calls reactionary modernism[27] or, according to M. T. Allen and E. Todd, a broadened idea about modernism.[28] They tried to replace Nibelugen's swords and Wagner's Valkyries with Parthenon's ancient glory, and doing so they invigorated the already strong idea of techno-nationalism.

The consensus on the domestication of rationalism and technology by the metaphysics of faith legitimized the perspective of the technological and industrial development of the country supported by engineers. It gave them strong advantages in their competition with the classicist, romantic and technophobic intellectuals, and the adherents of the traditional culture.

The dictator I. Metaxas, as an ex military engineer, who always liked to speak from his heart in terms of faith, took over what the industrial mania of the group of Zurichians and the rational technocratic utopia of Kitsikis could not accomplish. The absence of political and trade union liberties made the accumulation of capital a much easier affair. The so called "productive public works", which had been stopped after the crisis in the early 30s, restarted. The big projects of road construction and land reclamation, as well as the construction of the bunkers at the northern borders of the country in the late 30s, were accomplished to a large extent during this period. Due to the efforts of the Technical Chamber, the projects were assigned to Greek companies and engineers. At the same time the Greek industry was developed on a protectionist basis. Evidence of this inclination are the big lignite exploitation projects, the reports about hydroelectric infrastructures, the state factory for airplanes, the military shipyards, and the plans for the establishment of a steel industry in Greece just before the war. The share of industry into the gross national income was finally increased from 11.45% in 1928 to 13.42% in 1939.[29]

The board of the Technical Chamber, evaluating the economical and technological policies of the regime in 1939, commented: "The engineers…as intellectuals and pragmatists understand very well that the globalization of science and politics, in a context of strong

contentions, can not guarantee secure life and prosperity. The only resort for individuals is to belong to a coherent and strong national family".[30] Metaxas responded and stressed with emphasis: "…I want to thank every one of you for your support to the 4th of August regime, which has already born some fruit."[31]

Social paternalism, autarky ideology, and totalitarianism, empowered by the essentialist reconstruction of the national past, became the tools for the cleansing of the technocratic ideal from its materialistic ingredients and protecting as well social hierarchies from the threat of the class struggle. These ideas were the framework of the alliance among engineers and the 4th of August regime. The regime used and empowered this ideological synthesis and legitimized the perspective of the industrialization in a context of what it was called the 3rd Greek Civilization (actually an ideological construction of a linear continuity from ancient Greece to Byzantium and Christian Orthodoxy, and from there to the modern Greek nation state).[32]

Metaxas' authoritarian regime (1936-1941) claimed the identification of the state with an image of a coherent society.[33] Doing so, it actually followed and broadened the control inspired rhetoric, legislation and institutional formation, which had already started during the liberals and conservatives' parliamentary governance. The regime claimed an ideal harmonization between capital and labor, through the development of a kind of an authoritarian welfare state,[34] the attempt for the corporatist organization of society and the compulsory state arbitration.[35] Moreover, the Supreme Economic Council maintained its previous jurisdictions.[36] Metaxas also aimed to complete his political vision with a radical constitutional reform, which would permanently legitimize his regime with all its authoritarian characteristics.[37]

Metaxas' outspoken technophilia was based on his belief for the doubtless contribution of technology to the social progress. As Minister of Transportations during 1926-1928 he had already declared: "The roadwork network being conceived as a common creation of all Greeks, I am absolutely convinced that it will constitute one of the most beautiful stages of the development of the Greek working class, Greek entrepreneurship, Greek development, and finally, of the Greek civilization in general".[38] But, as the dictator said, in order for technology to function in such a way some preconditions were necessary.

First, technology and science should be incorporated to the authoritarian State. Such a solution should be multiply advantageous for the techno/science development, because it would not only facilitate the realizing of technological works, but it would also infuse social solidarity and national grandeur into soulless technological networks. It could finally motivate the techno/science activity in order to contribute to the progress of the national community, the

moralization of society, and the deeper foundation of the national idea: "And now we are able to trustfully aim towards the full development of this country. Through the development of transportations, the civilization, the people's wealth, the communication among habitants, the solidarity and connections among them will be also developed… However, if by this work it is the material civilization which is advanced, you have to remember that the existence of a real and durable civilization in one country must be based on a higher moral level. Is it necessary for me to tell you which moral civilization is this? Of course no..."[39]

Metaxas asserted that technology should be subordinated to the fundamental principles of the 4th of August regime: the values of religion, fatherland, loyalty to the family, the formation of a new moral civilization incarnated in the solidarity among citizens, in loyalty to the State and the king, and the edification of the youth through the subjection to the eternal moral rules.[40] Given that for Metaxas the authentic essence of science was faith and not reason, he believed that science and technology should be imbued with it: If you have not deep inside this faith you cannot become real scientists. How can you find something which you don't believe that really exists? But, what does such a belief order you? It orders you to be real in all the dimensions of your life. How is it possible for a scientist to be a researcher for truth, if the same man is a liar in his life?"[41]

Moreover, science and technology should be subjected to national ideals: "Your intellect must be destined to the development of the pure science… Because Greece is the country which created the modern European civilization and science, you must feel proud of it and serve with faithfulness the international science, but you must do it as Greeks, the way that your ancestors did, with the same devotion, the same zeal, and the same sacrifice".[42]

This was projected as a precondition in order to avoid negative effects from the uncontrolled evolution of science and technology. So, scientists and engineers were forced to support the idea of the national State as the only meaningful ideal for them.[43] At the same time, although technological civilization was conceived soulless per se, Metaxas declared that, through its subordination to the eternal essences, it could meet a higher level of spirituality and morality.[44]

He said: "I know very well that the scientists, unlike me, are influenced by rationalism; they use observation and experience instead of faith. I don't want to keep secret from you that the basis of my interaction with the people is the inspiration of faith and not rationalism, neither any experience nor experiment. But if you ask me what the keystone of this faith is, I will have to admit, I am ignorant".[45]

Summarizing, the technology question came to be an organic component to the ideological debates of interwar Greece, inextricably connected with ideas about modernity and progress. In this discursive framework, technology emerged as a crucial cultural variant related with moral and national existential issues. Politicians, engineers, scientists, and intellectuals were actively involved in these debates aiming to connect technological development with the necessity of a response to the acute social and political crisis.

Posed in this frame, technocratic ideals, as well as the instrumental representations of progress were increasingly interacting with authoritarian ideological orientations, which implicitly or explicitly undermined the liberal ideal in economy, society and politics. Politicians, engineers, and intellectuals, despite their differences, articulated a homogeneous commitment to the idea of order and discipline, contributing to the end of parliamentarism. The heyday of this evolution was the domestication of technocrats to the essentialist declarations of the authoritarian 4th of August regime. Their subjection to the regime was the price which they had to pay in order to legitimate and promote their technocratic visions.

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[1] Wagner, Peter. A Sociology of Modernity, Liberty and Discipline (London: Routledge, 1994), 37-69.

[2] In 1836 the population of the new founded Greek state was about 818.582, within a territory of 47.516 km2. The borders expanded twice over the period 1832-1912; in 1864, when Great Britain ceded the Ionian Islands to Greece, and in 1881, when Thessaly and part of Epirus were annexed. In 1907 the population of Greece was 2.631.952 and the extent of the country was 63.211 km. Petmezas, Socrates, "Demography", History of Greece in the 20th Century. The Beginning, 1900 1922, v. A1 (Athens: Vivliorama, 2000), 42-43 (in Greek).

[3] Dafnis Grigorios. Greece Between two Wars, vol. A (Athens: KAKTOS, 1997, 2nd ed.) (in Greek); George Mavrogordatos, Stillborn Republic, Social Coalitions and Party Strategies in Greece, 1922-1936 (Berkeley: University of California Press, 1983); Gunnar Hering, The Political Parties in Greece, 1821-1936, vol. B' (Athens: MIET, 2004), 1046-1254 (in Greek).

[4] Yiannis Antoniou, Greek Engineers, Institutions and Ideas (1900-1940), (Athens: VIVLIORAMA, 2006), 126-140, 150-164, and 181-193 (in Greek).

[5] Antoniou, Greek Engineers, 301-353

[6] G. Theotokas, Free Spirit, (Athens: ESTIA, 2002, 1st edition 1929), 6 (in Greek).

[7] Ibid, 69-70.

[8] Christina Agriantoni. "Venizelos and Economic Policy", P. Kitromilides (ed.), Eleftherios Venizelos: The Trials of Statesmanship (Edinburgh: Edinburgh University Press, 2006): 284-318.

[9] S. Tzokas, S. Eleftherios Venizelos and the bourgeois modernization project 1928-1932: the construction of a bourgeois State (Athens: Themelio, 2002) (in Greek).

[10] Mark Mazower, Greece and the Inter-War Economic Crisis (Oxford, Clarendon Press, 1991); Nikos Psiroukis, Fascism and the 4th of August Regime (Lefkosia: Aegean publications, 1994) (in Greek); Th. Veremis and M. Mazower, "The Greek Economy 1922-1941", Th. Veremis and R. Higham. (eds), Aspects of Greece, The Metaxas Dictatorship (Athens: ELIAMEP-Vryonis Center, 1993): 111-130.

[11] Kostas Kostis, "The Greek Economy during the Depression", Th. Veremis and G. Goulimi (eds), Eleftherios Venizelos, Society-Economy-Politics in his era (Athens: Gnosi, 1989): 191-226 (in Greek); Christos Hadjiosif, The Old Moon, The industry in Greek economy, 1830-1940 (Athens: Themelio, 1993) (in Greek).

[12] Kostas Kostis, "The economy challenge: Facing the international economic crisis", Th. Veremis and E. Nikolakopoulos, (eds), Eleftherios Venizelos and his era (Athens: Greek Literature editions, 2005): 331-340, (in Greek).

[13] Antoniou, Greek Engineers, 177-181, and 371-375

[14] G. Theotokas, "Facing the Social Problem", Alivizatos, N. Tsapogas, M. (eds), G. Theotokas: His Political Thought (Athens: Estia, 1996, 1st edition 1932), 170-197 (in Greek).

[15] The Economical Inquiry of the Major Technical Issues (Athens: edit. Technical Chamber of Greece, Athens, TEE, 1933) (in Greek).

[16] Ch. Chatziiosif, "Aspects about the Viability of Greece and the Role of Industry', Volumes Dedicated to N. Svoronos, v. 2 (Heraklio: PEK, 1986), 330-368 (in Greek).

[17] Nikos Alivizatos, Political Institutions in Crisis: The Greek Experience, 1922-1974 (Athens: Themelio, 1995), 21-29, 33-134, 337-346, 673-695 (in Greek).

[18] St. Stefanou, St. (ed.), Eleftherios Venizelos.: His political inheritance (Athens, 1971-1981), 2nd Volume, p 439-442, 3rd Volume, p. 398, 549, 576; 4th Volume, p. 188-189 (in Greek). Archives of Eleftherios Venizelos, FO 173/141 (in Greek). Although the Council of State was probably constituted as a modernizing institution, its judicial dimension prevailed over the administrative one. The powerful State maintained the political control. See also, N. Alivizatos, "Council of State: An institutional paradox?", Chr. Chatziosif, (ed.) History of Greece in 20th Century: 1922-1940, vol. 2 (Athens: Vivliorama, 2002), 245-257 (in Greek).

[19] According to Venizelos and the majority of Greek politicians, the incapacity of the parliamentary system to confront the complexity of the times made absolutely necessary the system to be empowered with scientific institutions in order to handle the economic and technological problems in a scientific context. The Supreme Economic Council was expected to contribute in solving the problems and harmonizing the different social interests within a cohesive national context. Finally, its role came to be strictly conciliatory and it was not transformed in a kind of parliament of professional interests Archives of Eleftherios Venizelos, FO 173/142, 173/145, 173/146. See also, Hering, Political Parties, Volume 2, 1153-1154. Kostis, "The Economy challenge", 331-340.

[20] Stefanou, Eleftherios Venizelos, Vol. 1, 188-189, 206, 213-214, 222-223.

[21] Archives of Eleftherios Venizelos, FO 173/141, 173/142, 173/145.

[22] Stefanou, Eleftherios Venizelos, Vol. 1, 133, 222-223, Volume4, 392-422, 552-554, 688-691. K. Polychroniades, Venizelos' Opinions About the Constitutional Reformation (Athens: Papazisis, 1943) (in Greek). N. Tomadakis, (ed.), Venizelos El.: Unpublished Thoughts about the Constitutional Reformation (Athens, 1948) (in Greek); Alivizatos, Political Institutions.

[23] Sp. Marketos, How I kissed Mussolini (Athens: Vivliorama, 2006), (in Greek). Alexandros Kirtsis, Sociological Thought and Modernizing Ideas in Greek Interwar (Athens: Nisos, 1996) (in Greek). G. Mavrogordatos, The Stillborn Republic, Social coalitions and party strategies in Greece, 1922-1936 (Berkeley: University of California Press, 1983); Herring, Political Parties.

[24] Fritz Todt, "German Road – Making", Technica Chronica, 109, 1/7/1936 (in Greek). "The Olympic Block in Berlin", ibid: 111-112, 1-15/8/1936 (in Greek). Elias Gounaris, "The international Congress about Foundries in Milan" 12-27/9/1931», ibid, 4, 15/2/1932. Julius Dorpmuller, "Railways and Technical Universities", ibid, 58, 15/5/1934: 459-462 (in Greek).

[25] Technica Chronica, 77, 1/3/1935, 260.

[26] G. Theotokas, "Greece Faces the Social Question", N. Alivizatos, M. Tsapogas (eds), G. Theotokas: His Political Thought, Vol. 1 (Athens: ESTIA 1996, 1st edition 1932), 203-204 (in Greek).

[27] Jeffrey Herf, Reactionary Modernism. Technology, Culture and Politics in Weimar and 3rd Reich (Cambridge: Cambridge University Press, 1984).

[28] Michael Thad Allen, "Modernity, the Holocaust, and Machines without History", Technologies of Power, Essays in Honor of Thomas Parke Hughes, M. Thad Allen and Gabrielle Hecht, (eds.) (Cambridge, Mass: MIT Press, 2001): 175-214. Edmund N. Todd, "Engineering Politics, Technological Fundamelism, and German Power Technology", Technologies of Power, Essays in Honor of Thomas Parke Hughes, , M. Thad Allen and Gabrielle Hecht (eds.) (Cambridge, Mass: MIT Press, 2001): 145-174.

[29] Chatziiosif, Aspects of the Viability, 308-319, 154-174.

[30] Technica Chronica, no. 177, 1/5/1939, 348.

[31] Ibid, no. 179-180, 1-15/6/1939, 431.

[32] Antoniou, Greek Engineers, 361-399. See also, Panagiotis Noutsos. "Components of 4th August Ideology", N. Svoronos, H. Fleisher (ed.), Proceedings of International Congress, Greece 1936-1944, Dictatorship, German Occupation, Resistance, Athens, Educational Institution of Agricultural Bank of Greece, 1989: 59-69 (in Greek).

[33] In Metaxas' mind the State of the 4th of August constitutes or is expected to constitute a collective, organic, and soulful representation of a united society. Ioannis Metaxas, Speeches and Thoughts, Vol.1 (Athens: Govostis, 1969), 35-37 (in Greek).

[34] Metaxas, ibid: 139-140, 149-152.

[35] Metaxas perceived State as fair referee; its intervention should be founded on the necessity of restricting the strife between the different interests, and in no case on the replacement of the private initiative in the economy. Metaxas, ibid: 50-52. I. Metaxas, His Diary, Vol. 4 (Athens: Govostis, 2005), 809-812; Michalis Psalidopoulos, "Forms of Economic Thought in Greece, 1936-1940", H. Fleischer, N. Svoronos, (eds), Greece: 1936-1944, Dictatorship, Occupation, Resistance (Athens: Foundation of Agricultural Bank of Greece publications, 1989): 98-144 (in Greek).

[36] Archives of Ioannis Metaxas, FO K065/54. Psalidopoulos (ibid.) observes that during Metaxas' governance reformations were not realized in order for the Supreme Economic Council to be transformed to a Parliament of professional interests.

[37] Archives of Ioannis Metaxas, FO K065/10.

[38] I. Metaxas, His Diary, Vol. 3, 841.

[39] I. Metaxas, Speeches and Thoughts, Vol. 1, 216-217.

[40] Ibid.

[41] Ibid, 284 (speech at the swearing ceremony of the students of the University Of Athens, 20/11/1937).

[42] Metaxas I., ibid: p.144 (speech at the inauguration of the "Student's House", 21/12/1936).

[43] Metaxas I., ibid: pp.238-239 (speech to the Officials Engineers of Athens).

[44] Metaxas I., ibid: 2nd Volume, p.32 (24/2/1939).

[45] Metaxas I., ibid: 1st Volume, pp. 186-187 (speech in the dinner of the Polytechnic Club of Athens, 13/5/1937).