

# Planning the Technate.

## The apolitical politics of the 1930s' Technocratic Movement

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### Abstract

This paper intends to show how the North American Technocratic movement, which was a force to reckon with during the early 1930s, vended their political aims as non-political by claiming their ideas were prescribed by Technology, which they regarded as being both neutral and efficient. The proponents of Technocracy rejected the capitalist 'Price System' and advocated a Technate: a state governed by technologists that would act as proxies for technology. The Technate would ensure the most efficient system of production and distribution and, by extension, societal arrangements. The Technocrats' ideas resonated strongly in North America, but also gathered support in Europe, leading to the formation of technocratic groups in several countries that promoted impersonal, apolitical, and efficient forms of governance.

### Introduction

The Technocratic movement would take the dream of a better and more just society mandated by technology and attempt to make it into a reality. This paper starts with a description of the societal context that spawned the Technocratic movement: the Progressive Era, Taylor's scientific management, the rising importance of engineers, and Thorstein Veblen's ideas about technological unemployment, the evils of the current socio-economical system and the role of the engineers in the predicted new system. Subsequently, the Technocrats' analysis of the social wrongs and woes of their time will be described, as well as the rise (and fall and rise) of the Technocratic movement and its enigmatic leader, Howard Scott. Then the internal discourse of the movement is described, that worked in such a way that it could declare their ideas neutral, scientific and non-political. The paper ends with a short account of both the European resonance of the technocratic ideas and the lasting impact of the movement.

However, first it is important to differentiate 'Technocracy' from 'technocracy'. The word 'Technocracy' was coined by engineer William H. Smyth in the title of a series of three articles published in *Industrial Management* in 1919 and 1920.<sup>1</sup> Smyth advocated a government based upon "Rational Human Development<sup>2</sup>", by which he meant that science should be applied to society by the people that knew best how to use its power for good: scientists and technologists. To this end he proposed an alternative form of government, and industrial democracy that he called "Technocracy<sup>3</sup>" - a combination of the words 'techne' (skill/ making) and 'kratos' (power/ rule) - that would be governed by a "Supreme National Council of Scientists<sup>4</sup>". Smyth's ideas partially overlap with the later ideas of the Technocratic movement, but there appears to be no direct link between him and the movement, and the word disappeared again until the Technocrats claimed it in 1932 – and then 'Technocracy' became such a hot topic it was named as the 'new word of 1932'.<sup>5</sup> The usage of the term 'technocracy' for a

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<sup>1</sup> Donald Stabile, *Prophets of Order. The Rise of the New Class, Technocracy and Socialism in America*. (Boston: South End Press, 1984), pp. 50, 101, 105

<sup>2</sup> William Henry Smyth, *Technocracy* (London: Forgotten Books, 2016), p. 6.

<sup>3</sup> Smyth, pp. 1, 7, 16.

<sup>4</sup> Smyth, p. 6.

<sup>5</sup> Peter Rodenburg, 'Ingenieurs van de samenleving - De opkomst van het technocratisch denken in de Verenigde Staten en Nederland', *Tijdschrift voor geschiedenis*, (2014), 271–91 (p. 278); Henry Elsner (jr.), *The Technocrats*:

system of bureaucratic governance by managers and professionals could be seen as a post WWII derivative, that indeed partially overlaps with the ideas of the Technocrats, but has little to do with the Technocratic movement. Therefore, the two terms should be differentiated – which is complicated because the source material sometimes does not.

## **Societal context of the inception of the Technocratic movement**

The formation of the Technocratic movement was made possible by several developments in early 20<sup>th</sup> century in the United States of America, such as the notion of the constructability of society and the emphasis on efficiency of the Progressive Era<sup>6</sup>, a period that lasted from the 1890's to the 1920's. Economically, the beginning of this period was characterized by both the lack of order in the market, which caused severe price fluctuations and surpluses or scarcity of certain products, and the formation and consolidation of large and powerful companies, conglomerates and trusts, which drove up consumer prices.<sup>7</sup> Although it was on the whole a rather prosperous time, the distribution of wealth was very unequal and this created societal friction and prompted calls for socio-economic reform. The call for reform was loudest in the country's booming cities, where industrialization, mass immigration and automation of farming had led to rapid population growth.<sup>8</sup> Scarcity of housing worsened the squalid living conditions in the overcrowded city slums, and reports of extreme working conditions and child labor resulted in moral uneasiness amongst the middle and upper classes. This prompted the formation of numerous movements for social reform, including the Efficiency Movement – an umbrella term for initiatives and groups that looked for modern, efficient scientific and/ or technological solutions to solve a wide range of socio-economic problems.<sup>9</sup> On the whole there was a "efficiency craze"<sup>10</sup> in the beginning of the twentieth century - the idea of efficiency was applied to all aspects of life. During WWI the introduction of various planning boards, such as the War Industries Board and the U.S. Railroad Administration, showed that central control could result in more efficiency when the role of the state was enlarged.<sup>11</sup>

A very influential endeavor for maximum efficiency was undertaken by management consultant, and former mechanical engineer<sup>12</sup>, Frederick Taylor. In 1911 he published *The Principles of Scientific Management*, in which he recounted his decades-long experience with the optimization of labor productivity in industry.<sup>13</sup> His aim was to "exchange of the rule of thumb for scientific management"<sup>14</sup>. The "one best method"<sup>15</sup> for any job would be uncovered by a "scientific study and analysis of all of the methods and implements in use, together with an accurate, minute, "motion and time study"<sup>16</sup> conducted by an efficiency engineer. Engineers were generally in favor of Taylor's system because its philosophy supported increasing the role of expert engineers and granted them tasks that were previously the domain of management. According to Akin in *Technocracy and the American Dream*, "Taylor provided the conceptual framework for the rationalization of work in the twentieth century."<sup>17</sup>

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*Prophets of Automation*. (Syracuse University Press, 1967), pp. 1, 2; Allen Raymond, *What Is Technocracy?* (New York & London: Whittlesey House, 1933), p. 3.

<sup>6</sup> P. (ed.) Scott Corbett and others, *U.S. History* (Houston, Texas: Open Stax, Rice University, 2017), p. 691.

<sup>7</sup> Samuel Haber, *Efficiency and Uplift. Scientific Management in the Progressive Era, 1890-1920* (Chicago & London: The University of Chicago Press, 1964), p. XI, XII.

<sup>8</sup> George E. Mowry, *The Era of Theodore Roosevelt and the Birth of Modern America, 1900-1912* (New York and Evanston: Harper Torchbook, 1962), p. 127; Scott Corbett and others, pp. 522, 541.

<sup>9</sup> Haber, p. IX; Mowry, pp. 35, 36, 127.

<sup>10</sup> Haber, p. 62.

<sup>11</sup> Haber, p. 119.

<sup>12</sup> Taylor was a formidable engineer whose innovations contributed greatly to the steel industry. In: Edwin Layton, *The Revolt of the Engineers: Social Responsibility and the American Engineering Profession* (Baltimore, Md: The Johns Hopkins University Press, 1986), pp. 134–36.

<sup>13</sup> Frederick Winslow Taylor, *The Principles of Scientific Management* (New York and London: Harper & Brothers Publishers, 1919), pp. 7, 8; Layton, *The Revolt of the Engineers*, pp. 140, 141.

<sup>14</sup> Taylor, p. various places, e.g. p 24.

<sup>15</sup> Taylor, p. 25.

<sup>16</sup> Taylor, p. 25.

<sup>17</sup> William E. Akin, *Technocracy and the American Dream: The Technocrat Movement, 1900-1941* (University of California Press, 1977), p. 9; see also Layton, pp. 140, 141.

Another development was the steep growth in the demand for engineers resulting from the growing complexity of industrial production processes. Newly erected colleges started to offer courses on specializations within the engineering profession, e.g. for electrical, mining or chemical engineering. The result was impressive: while the total American population doubled between 1880 and 1920, the number of engineers grew from 7.000 to 136.000.<sup>18</sup> The self-image of engineers was very positive, befitting a time where the general atmosphere was one of man's victory over nature and the idea that science could be applied to more, if not all, facets of life.<sup>19</sup> However, a source of discontent was that their social status was lower than desired. In the companies they worked for they fell somewhere between management and the blue-collar workers; they lacked the autonomy to do their work the way they thought best. They aimed to improve their professional standing by organizing themselves into engineering societies – most engineers were a member of one, or more, of these successful organizations.<sup>20</sup> The journals of these societies proved essential in the strengthening of the self-image and group identity of their members, provided them with positive confirmation and fueling their nascent feelings of superiority. In 1916 mechanical engineer and management consultant Henry Gantt, who had been Taylor's chief assistant, even formed 'the New Machine', an organization that aimed to have engineers optimize the whole society. Although the New Machine was relatively unsuccessful, it was a clear sign to the discontent amongst engineers.<sup>21</sup>

A direct link between the Technocrats and the ideas of their time was the work of Thorstein Veblen, an American sociologist and economist who was a staunch critic of the economic system of his time and is known for coining the term 'conspicuous consumption'.<sup>22</sup> In 1919 Veblen started to flesh out his ideas about the vital role of technologists and to this end he organized discussion sessions in New York. In 1921 Veblen published *The Engineers and the Price System*<sup>23</sup>, in which he identified what he thought wrong with the economic system of the time – which he dubbed the Price System - and how it would be up to the engineers to change the system and lead society to prosperity.<sup>24</sup> He concluded that in the Price System technological progress would result in unemployment (coining the term 'technological unemployment'), the further concentration of wealth and untenable financial speculation. However, technology would result in both material abundance and more pleasant lives, if only the engineers would be in charge. He stated: "These expert men, technologists, engineers [...] make up the indispensable General Staff of the industrial system; and without their immediate and unremitting guidance and correction the industrial system will not work."<sup>25</sup> He assumed that production could be increased manifold, if only the engineers would overthrow the existing system and form a government based on 'scientific collectivism'.<sup>26</sup>

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<sup>18</sup> Layton, *The Revolt of the Engineers*, p. 3.

<sup>19</sup> Mowry, pp. 18, 19.

<sup>20</sup> Layton, *The Revolt of the Engineers*, p. X; Akin, p. 5.

<sup>21</sup> Edwin Layton, 'Veblen and the Engineers', *American Quarterly*, 14.1 (1962), 64 (pp. 68, 69); Akin, pp. 23–25.

<sup>22</sup> See: Thorstein Veblen's *The Theory of the Leisure Class* (1899)

<sup>23</sup> Thorstein Veblen, *The Engineers and the Price System* (New York: B.W. Huebsch, Inc., 1921).

<sup>24</sup> Akin, pp. 23–25; Veblen.

<sup>25</sup> Veblen, p. 69.

<sup>26</sup> Donald R. Stabile, 'Veblen and the Political Economy of the Engineer', *The American Journal of Economics and Sociology*, 45.1 (1986), 41–52 (p. note on p. 43); Veblen, pp. 71, 154, 156, 159.

Under the leadership of Howard Scott, future frontman of the Technocratic movement, some of the engineers and scientists that partook in Veblen's discussion group formed the 'Technical Alliance'. The Technical Alliance aimed to "give concrete expression to Veblen's challenge<sup>27</sup>" and undertake the research required to expose the inefficiency of the current organization of industry.<sup>28</sup> In their 1920 prospectus, the Technical Alliance introduced itself as a research organization that aimed to examine the availability of natural resources, employment, productivity per employee, horsepower used and maximum horsepower capacity of 3000 industries over the past century, in order to get clear data on inefficient use of resources. The emphasize on horsepower was necessary because Scott wanted to use energy as the core value for the research data.<sup>29</sup> The Technical Alliance claimed to have no political objectives, but the fourth and last goal in their prospectus did hint at more than research: the Technical Alliance wanted to apply science to industry and the societal domain and aimed to "work out a tentative design of production and distribution completely coordinated."<sup>30</sup> The Technical Alliance fizzed out within a few years, but their ideas got a second chance when the unstable foundation of the nation's economy was exposed as the result of the stock market crash of October 1929 that resulted in the Great Depression of the early thirties.

## The Technocratic movement

In 1931 Howard Scott met a young geophysicist named Marion King Hubbert, who worked at Colombia University as an instructor. They discovered they had many like-minded ideas and decided to start a research organization similar to the earlier Technical Alliance. To this end Scott gathered some of his old acquaintances from the Technical Alliance, who were impressed that Scott's foretelling of the disastrous impact of the economical system's imbalances had come true and King Hubbert asked some of his academic acquaintances. The new 'Committee on Technocracy' took to work on an 'Energy Survey' that would collect and plot data on production (such as energy usage and man-hours per unit) for all industries for the period 1830-1930.<sup>31</sup> Walter Rautenstrauch, Chairman of Colombia University's Department of Industrial Engineering, saw some of its preliminary research findings in early 1932, which led to the study being hosted and co-funded by the university.<sup>32</sup> Because the Technocrats claimed scientific neutrality, they denied that their research had a priori goals. However, they did have clear assumptions about the nature of things and, within a few months, reached strong worded conclusions about the socio-economic wrongs of their time. They declared that the Price System was a product of the situation of scarcity from before the industrialization, when humans did not utilize much extraneous energy. However, industrialization led to replacement of human labor by machinery and caused technological unemployment, which had inevitably resulted in the Great Depression. Modern science and technology could easily provide all Americans with enough goods to end scarcity, but society lagged behind technological advancement and needed to be updated in order to make the societal impact of technology constructive rather than destructive. They assumed that Americans would rationally choose the correct direction going forward once provided with the correct data. However, they did not yet specify what this direction would be.<sup>33</sup>

The research project was only a few months underway when it was noticed by the press - Technocracy became a very big story in a very short time. The wave of publicity and attention that

<sup>27</sup> Stuart Chase, *Technocracy. An Interpretation.*, The John Day Pamphlets, 19 (New York: The John Day Company, 1933), p. 7.

<sup>28</sup> Donald Stabile, *Prophets of Order* (Boston, MA : South End Press, 1984), p. 216

<sup>29</sup> David Adair, 'The Technocrats 1919-1967: A Case Study of Conflict and Change in a Social Movement.' (unpublished Thesis, Arts and Social Sciences: Department of Political Science, Sociology and Anthropology, 1970), pp. 19, 20; Akin, pp. 33-35; Elsner (jr.), pp. 24, 25; Rodenburg, p. 273.

<sup>30</sup> Elsner (jr.), p. 23; see also: Sean F. Johnston, 'Technological Parables and Iconic Illustrations: American Technocracy and the Rhetoric of the Technological Fix', *History and Technology*, 33.2 (2017), 196-219 (p. 276); Chase, p. 9; Akin, pp. 61, 62.

<sup>31</sup> Elsner (jr.), p. 26; Rodenburg, p. 276.

<sup>32</sup> Rodenburg, pp. 275, 276; Elsner (jr.), p. 2.

<sup>33</sup> Elsner (jr.), p. 33; Akin, pp. 66, 70; Howard Scott, 'America Prepares for a Turn in the Road', *Technocracy*, A, One, undated, 10-12 & 16-18 (p. 12); Technocracy Inc., *Technocracy Study Course.*, fifth edition (1940), fourth printing (1945) (New York: CHQ Technocracy Inc., 1945), pp. 114-17, 150, 208.

swept over the Committee of Technocracy in the autumn and winter of 1932 is hard to overstate. Akin summarizes it as follows: "[in] 1932-33 the ideas of the Technocrats overshadowed all other proposals for dealing with the crisis. No economic study had ever received such widespread attention."<sup>34</sup> Its leader, Howard Scott, was considered a highly charismatic leader - tall, lean, with strong features and a stern presence and he proved to be a persuasive speaker that impressed his audiences with his command of data on industrial practices.<sup>35</sup> Scott's interpretation of apolitical was different than that of the more conservative Rautenstrauch and he quickly became convinced that the survey data not only showed what was wrong, but that it also suggested a way to make it right.<sup>36</sup> Because of their sudden high profile the Technocrats did get a lot of critique. The data they shared as part of the Energy Survey was fact-checked by various outlets and revealed to be at least partly erroneous.<sup>37</sup> Within the Committee tensions grew between Rautenstrauch's more academic fraction and the Scott's more boisterous fraction, that wanted to sketch a future state based on energy and run by technologists. Scott's public profile – increasingly, he manifested himself as "Mr. Technocracy"<sup>38</sup> – formed another focus point for critique. Scott's back story that, included rather vague but glamorous tales of worldly travels, several doctorates and a heroic role during WWI, was proved to be fictional by a journalist in December 1932.<sup>39</sup>

Scott promised the public to provide more details about the technocratic society in a speech he would deliver on January 13, 1933 at a banquet for a 400-man audience of industrialists, economists and bankers at the prestigious Hotel Pierre in New York. The speech, titled 'The Place of Science and Technology in Modern Civilization', was broadcast nationwide on radio, which was an exceptional opportunity for Scott to spread the word of Technocracy.<sup>40</sup> However, he groped for words and was inarticulate, while mentioning things like 'ergs' and 'energy certificates'. Nonetheless, he did promise his audience that if America would choose Technocracy, unemployment would cease to exist and people could enjoy a high household income while only having to work four hours for four days a week.<sup>41</sup> In the next few days Rautenstrauch and most other member of the Committee let the press know that they bowed out; they distanced themselves from Scott, who would no longer be permitted to work at Columbia. The press concluded that Technocracy was over – the NYT opened with an article titled 'Technocracy Cult Now Is On The Wane' that declared the 'technocraze' ended.<sup>42</sup>

However, a part of the radio audience had liked what they heard. This contributed to the growth of the already budding technocratic grassroot movement(s): technocratic groups could be found everywhere in America – including in Canada. It turned out that the Committee on Technocracy had to fall apart for the Technocratic movement to take flight.<sup>43</sup> Together with King Hubbert and a few others Scott founded a new organization in March 1933, which they named 'Technocracy Inc.', which had Scott as its Director. The formulated goals of Technocracy Inc. were twofold: education and research for a design for scientific control of society and the formation of a cadre of people that could act during the coming crisis. Because of the inevitable nature of the coming collapse of the Price System, Technocracy Inc. would not have to act to realize it, but it should get ready to take the reins.<sup>44</sup> The new organization drew most of its members from the middle class and skilled labor and those working with technology were overrepresented. Technocracy Inc. would become a firmly led organization with clear

<sup>34</sup> Akin, p. X, XI; Elsner (jr.), pp. 2, 3; Akin, pp. 64, 80; 'Industrial Growth of Nation Is Traced', *New York Times* (New York, 6 August 1932), p. 13.

<sup>35</sup> Johnston, 'Technological Parables and Iconic Illustrations', p. 199; Elsner (jr.), p. 6.

<sup>36</sup> Elsner (jr.), pp. 2–5.

<sup>37</sup> Simeon Strunsky, 'A Challenge to Technocracy', *New York Times*, 8 January 1933, section Magazine, p. 1; Akin, pp. 153–55.

<sup>38</sup> Akin, p. 88.

<sup>39</sup> Raymond, pp. 112–16; Akin, p. 28. Nb: his actual backstory is unknown.

<sup>40</sup> Elsner (jr.), p. 11.

<sup>41</sup> Elsner (jr.), p. 12; Rodenburg, p. 277.

<sup>42</sup> 'Scott Is Ousted From Technocracy By Split In Group', *New York Times* (New York, 24 January 1933), p. 1; 'Technocracy Cult Is Now On The Wane; Break Between Columbia and Howard Scott Brought the Movement to a Climax', *New York Times* (New York, 29 January 1933), section Financial, p. 1; Elsner (jr.), p. 13; Raymond, p. 183.

<sup>43</sup> Adair, p. 38.

<sup>44</sup> Elsner (jr.), p. 44; Akin, p. 100; 'Technocracy Cult Is Now On The Wane; Break Between Columbia and Howard Scott Brought the Movement to a Climax'.

bylaws, multiple publications including the 'Study Course' and a distinct visual identity: the Monad as insignia, a dress code, grey as official color and even a salute. Within a year Technocracy Inc. had many thousands of members organized in a hierarchical organization, in both the U.S.A. and Canada.<sup>45</sup>



*Technocracy Inc. in the 1930s. Left: Howard Scott, right: youth members performing the salute (source: Archive.org)*

Scott wrote that Technocracy Inc. was "a disciplined organization with a definite esprit de corps<sup>46</sup>" and that its members were responsible to behave in a way that befitted the organization. This entailed that speakers were required to adopt a cool, detached and confident manner and "conduct themselves at all times in a manner becoming a Technocrat."<sup>47</sup> Technocracy Inc. was run from its headquarters, initially called 'Central Headquarters' and later 'Continental Headquarters', in New York, where Scott, Knight and King Hubbert resided. The headquarters held a very tight control over the locally organized 'Sections'. It issued the Sections' bylaws (a printed eighteen-page booklet), membership cards and literature and distributed detailed guidelines for meetings and activities. E.g., Technocracy Inc. stressed that its members should not call the organization radical or revolutionary and that moralistic terms and concepts such as "'justice,' 'right,' 'wrong,' 'ought to,' 'should,' 'liberty,' 'freedom,' 'equality,' 'natural rights,' 'mind,' 'soul,' 'spirit'" needed to be avoided unless they were objectively analyzed.<sup>48</sup> The members could fill their agenda with the activities organized by their Section. There were public speaking classes, current-event discussions and other social events, but the most important item on the agenda were the Study Course classes, in which each member had to partake.<sup>49</sup>

<sup>45</sup> Adair, pp. 48, 62, 63.

<sup>46</sup> Howard Scott, 'Another Milestone on Our Way', *Technocracy*, A, 1, undated, 3, 4 (p. 4).

<sup>47</sup> Technocracy Inc., 'Operating Instructions', 1938, p. 8, see als p. 7.

<sup>48</sup> Technocracy Inc., 'Bylaws And General Regulations.' (Technocracy Inc., 1942), p. 14,15; Technocracy Inc., 'Operating Instructions', p. 5,7 from No. 4.

<sup>49</sup> Elsner (jr.), p. 103.

## The technocratic worldview

King Hubbert was in charge of the educational efforts of the organization. To this end he wrote the Technocracy Study Course, a 22 lesson, 218 pages work that would come to form the scripture of Technocracy Inc. and produced a great unity of ideas amongst its members.<sup>50</sup> The Study Course focused mainly on scientific knowledge, but also included the description of the Technate, the energy state the Technocrats advocated. Central was the study of energy, 'energetism': everything was reduced to (amounts of and conversion of) energy, e.g., man was defined as an energy-using engine that turns oxygen and energy from food into work.<sup>51</sup> The Study Course states that the period before 1800 had been a 'social steady state' because use of extraneous energy was limited then. Industrialization had changed this profoundly and irreversibly and therefore the entire social mechanism had to adapt to technology. The Study Course was valued highly by the members of Technocracy Inc. and having completed it gave them the sense they had received valuable training, that would help them function as the vanguard of the future.<sup>52</sup>

The Technate would be a social system based on the advanced science and technology of a high-energy society. It would guaranty its citizens unparalleled wealth, security, and leisure. In order to reach that technocratic prosperity, the United States would have to extent its geographical boundaries. To the Technocrats it made scientific sense to form a union stretching from Panama in the south to the North Pole, since "[s]uch a country would possess sufficient energy and mineral resources to assure posterity on this continent and continuation of a high energy civilization greater than any the world has thus far seen, for probably a thousand years under technological methods."<sup>53</sup> In the Technate of America, the entire industry, all production and distribution and 'all social functions', would be organized on a continental scale. Within the Technate goods would be standardized and their quality would be determined by the 'energy criterion': the lowest amount of energy (of any kind) needed for production, distribution, and usage; therefore, the energy use of all devices and entities had to be calculated.<sup>54</sup>

Money would be unusable for the distribution of goods in the Technate, not only because it was connected to the redundant idea of value in the Price System, but also because it could be hoarded, stolen or gambled. In the high energy society, the cost of any good or service would be the energy it cost to produce it. Payment would be done with 'Energy Certificates', which would be distributed equally amongst the adult population. The Energy Certificates used for payment would be pushed through a 'photo-electric control recording machine' that automatically removed the amount from the buyer's account and deducted the good or service from the inventory. The information about each purchase would then be relayed by wire to the central headquarters, that would have a "complete and up-to-the-minute inventory of the physical operation of the entire Continent as to rates of production, stocks on hand, and rates of consumption<sup>55</sup>", and where this information could be used to fine-tune production.<sup>56</sup> In order to do all these calculations a very extensive automated administration system – what we nowadays would call large-scale integrated ICT-infrastructure – would be vital. Another example of technocratic rationalization was time, because the division of a year in months was labeled non sensical. In the Technate each year would start on day 0 on the vernal equinox in spring, March 21<sup>st</sup>, and the remaining days would be numbered 1-364 (365 in leap years). Furthermore, fixed weekend would be abolished: people would work on four successive days and then have three

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<sup>50</sup> Technocracy Inc., *Technocracy Study Course*; Akin, p. 100.

<sup>51</sup> Technocracy Inc., *Technocracy Study Course*, p. 56.

<sup>52</sup> Howard Scott, *Introduction to Technocracy* (New York: The John Day Compagny, Inc., 1933), p. 18; Adair, pp. 68, 73; Elsner (jr.), pp. 138, 139.

<sup>53</sup> Raymond, pp. 95, 96; see als p. 4, 19; Scott, *Introduction to Technocracy*, p. 18.

<sup>54</sup> Technocracy Inc., *Technocracy Study Course*, pp. 234, 252.

<sup>55</sup> Howard Scott, *Technocracy. Science Vs Chaos*. (New York: Technocracy Inc., 1933), p. 17.

<sup>56</sup> Harold Frezer, 'The Energy Certificate', *Technocracy*, A, 10, 1937, 11–14 (p. 14); Scott, *Technocracy. Science Vs Chaos*, p. 18; Akin, pp. 140, 141.



successive days off, divided in seven groups, so that each day the same amount of people would work.<sup>57</sup>

Technocracy Inc. rejected philosophical rhetoric and any form of idealism: "We are not investigating or discussing human antagonisms. We are, instead, finding out how to do things functionally."<sup>58</sup>

Technocracy Inc. claimed to be apolitical, not only because they rejected the inefficiency of the political system, but also because political participation would make them complicit to the Price System.<sup>59</sup> Technocracy Inc. was as clear about what they were not than about what they were. They rejected all social, economic, and political ideas that stemmed from the Price System era, which they labeled as either as "politico-economic neurosis of the price system"<sup>60</sup> or as utopian - the Technocrats considered themselves to be practical people: forming a Technate just made the most sense. They also rejected the idea that anything could be learned from culture or history; the Technate should start with a clean slate.<sup>61</sup> In the Technate politics would be absent and democracy obsolete, because technology would point out what was the best way for everything: "It is stupid deciding an issue by vote when a yardstick can be used."<sup>62</sup> The disdain for the ineffectiveness of politics was great enough for Technocracy Inc. to forbid its members to undertake political activities.<sup>63</sup>

A technocratic slogan read "Functional Control is Imperative"<sup>64</sup> and this meant that governance was an engineering job and consequently a job for engineers. According to the Technocrats, technologists had absorbed some of the characteristics of technology: they started to think in terms (industrial) process and efficiency, which made them the ideal managers of the Technate.<sup>65</sup> However, Technocracy Inc. did not rule out political action: "Technocracy Inc. may take political action, but not as a political party to participate in the political administration of the price system, but only as an orderly means of abolishing the price system."<sup>66</sup> What these 'orderly means' would be is unknown, and there does not seem to have been a concrete action plan to reach the Technate, but Technocracy Inc. did call itself the "Technological Army of the New America"<sup>67</sup> However, after a few years, members that desired political action went looking for it elsewhere, and in 1942 King Hubbert left as well.<sup>68</sup> But, although Technocracy Inc. did not get any notable press attention and became increasingly inward looking, secretive even, it stayed a significant (a)political organization until the late 1940's – during WWII it was even forbidden in Canada since it was seen as a threat to the state. From the late 1940s onwards, the membership dwindled, although Scott stayed on technocratic leader until his death in 1970. The organization still maintains a website, although not much is happening there.<sup>69</sup>

## Impact of the Technocratic movement

The Technocrats focused solely on North America - they distained Europe because it was held back by thinking from a bygone era and had reached the decadent stage of its civilization. Its old philosophies and traditions could offer modern, forward-looking, America nothing. Furthermore, the old world had an insufficient number of technical trained people to form an energy state, and it lacked America's abundant natural resources. In line with the Technocratic focus on America, non-Americans

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<sup>57</sup> Technocracy Inc., Regional Division 8141, Section 3, *The Words and Wisdom of Howard Scott\_Volumes1-2-3.*, p. 123.

<sup>58</sup> Scott, *Technocracy. Science Vs Chaos.*, p. 8, see also p. 2.

<sup>59</sup> Technocracy Inc., *Technocracy in Plain Terms. A Challenge and a Warning*, Seventh Printing (New York: Technocracy Inc., 1939), p. 18.

<sup>60</sup> Scott, 'Another Milestone on Our Way', p. 4.

<sup>61</sup> Harold Loeb, *Life in a Technocracy: What It Might Be Like*, Reprint edition (Syracuse, N.Y.: Syracuse University Press, 1996), p. XIV (Introduction by Elsner).

<sup>62</sup> Loeb, p. 70; see also: Chase, jacket text; Raymond, p. 4.

<sup>63</sup> Technocracy Inc., 'Bylaws And General Regulations.', p. 5. Nb: the sanction for partaking in political action was expulsion.

<sup>64</sup> Scott, *Technocracy. Science Vs Chaos.*, p. 24.

<sup>65</sup> Scott, *Introduction to Technocracy*, pp. 12, 32; Technocracy Inc., *Technocracy Study Course.*, pp. 215, 219, 220.

<sup>66</sup> Scott, 'Another Milestone on Our Way', p. 4.

<sup>67</sup> Technocracy Inc., Regional Division 8141, Section 3, p. 34.

<sup>68</sup> Elsner (jr.), p. 111; Rodenburg, p. 280.

<sup>69</sup> Adair, p. 66; Elsner (jr.), pp. 172–79; Johnston, 'Technological Parables and Iconic Illustrations', p. 212.



were not allowed to become members of Technocracy Inc.<sup>70</sup> Nevertheless, the press attention they generated in late 1932 and early 1933 was noted around the world and Europe was paying attention to the ideas of the Technocrats. Although there were no attempts to form a Technate of Europe<sup>71</sup>, there were national technocratic organizations set up in (at least) Germany, the Netherlands, Czechoslovakia and Austria.<sup>72</sup> The organizations had different ideological focusses, e.g., the Dutch Technocratic Alliance ['Nederlands Technocratisch Verbond'] mainly wanted to 'liberate science' and technology of "inhibiting external influences"<sup>73</sup>, while the German organization ['Deutschland Technokratischen Gesellschaft'] focused more on the philosophical aspects of the technocratic ideas and considered the German form of capitalism superior to its American equivalent.<sup>74</sup>

The resonance in Europe of the ideas about the vital role of technologists and the necessity of technocratic control of the entire production and distribution process, and by extension the state apparatus, went beyond the usually not very successful technocratic organizations. Interestingly, the call for effective, neutral, and non-political control was voiced from very different political viewpoints. To name an example: in 1935 an influential group of Dutch engineers that favored 'scientific socialism'<sup>75</sup>, developed a labor plan ['Plan van de Arbeid'] for the country that was based on thorough statistical research.<sup>76</sup> Its proposals included reduction of the workweek, stabilization of business cycles by establishing a planning bureau and reducing free market operation by ordering the economy; the plan was called the "most technocratic and scientific political work"<sup>77</sup> ever produced in the Netherlands. The proposed planning bureau ['Centraal Plan Bureau'] was indeed installed by the government in 1945; it disciplines the government and political parties with calculating and modelling the effects of (proposed) government policies. Its first director, Jan Tinbergen, had been one of the authors of the labor plan and had also created the world's first macro-economic model (for which he would win a Nobel Prize) that proved technological unemployment.<sup>78</sup> Another example of the influence of the technocratic ideas in Europe can be seen in Mussolini's 'productivismo', an ideology that combined state planning with collaboration with big companies. The Italian fascists were fascinated by technology, which is illustrated by Mussolini stating: 'The fascist state is more than a state, it is a dynamo'.<sup>79</sup> While the ideas about the societal role of technology (and technologists) of the Technocrats magnified and intensified the technological utopianism<sup>80</sup> already present in America, both the rationalization of government and the centralized economical control the Technocrats advocated were taken up more by European governments than by their own.

Overall, it can be concluded that the Technocrats' contribution to history is that they asked important questions about the impact of technology in the technological age, that people were not engaged with until then: did modern industrial technology require drastic social reorganization? What were the dangers and the opportunities of a society based on technology; what would be lost and won?, etc.<sup>81</sup>

<sup>70</sup> Technocracy Inc., *Technocracy Study Course*, pp. 111, 228, 229; Raymond, p. 94.

<sup>71</sup> A more recent 'Network of European Technocrats' ['NET'] does exist; it is an organization formed in Sweden in 2005 that combines the ideas of King Hubbert with ideas about robotics and artificial life and has published a 'Journal of European Technocracy', but it seems to be mostly the project of one man, Andrew Wallace. Source: archive.org.

<sup>72</sup> Stefan Willeke, *Die Technokratiebewegung in Nordamerika Und Deutschland Zwischen Den Weltkriegen: Eine Vergleichende Analyse*, Studien Zur Technik-, Wirtschafts- Und Sozialgeschichte, Bd. 7 (Frankfurt am Main: P. Lang, 1995); 'Technocracy as Seen in Czechoslovakia', trans. by W. R., *Technocracy*, A, undated, 6; Koch, 'Nieuwe Economie', *Synthese*, 2.3 (1937), 105–8 (pp. 105–8).

<sup>73</sup> Translated from the 'Beginselverklaring van het Nederlands Technocratisch Verbond', which by Leiden physicist A.D. Fokker, mentioned in: Koch (1937), pp. 105–108.

<sup>74</sup> Willeke; Erich Kraemer, *Was Ist Technokratie?* (Berlin: Kurt Wolff Verlag, 1933).

<sup>75</sup> Gerard Alberts, 'On Connecting Socialism and Mathematics: Dirk Struik, Jan Burgers, and Jan Tinbergen', *Historia Mathematica*, 21.3 (1994), 280–305 (p. 283).

<sup>76</sup> Rodenburg, 'Rationalization and the "Engineer-Economists" in the Netherlands, 1920-1940', *Research in the History of Economic Thought and Methodology* (2018), 41–57 (p. 52).

<sup>77</sup> Rodenburg, p. 286.

<sup>78</sup> Rodenburg, p. 285; Rodenburg, P., p. 52.

<sup>79</sup> Charles S. Maier, 'Between Taylorism and Technocracy: European Ideologies and the Vision of Industrial Productivity in the 1920s', *Journal of Contemporary History*, 5.2 (1970), 27–61 (p. 41). This statement also shows the influence of Futurism.

<sup>80</sup> My dissertation aims to shed more light on the technological utopian discourse -and its influence- of the Technocratic movement and the (contemporary) Singularitarians

<sup>81</sup> Akin, p. XII.

Some of the technocratic ideas regarding science and technology that are now common were considered novel at the time – which is illustrated by technocratic sympathizer Stuart Chase, who wrote that he was inclined to “agree with Technocracy that scientific development is an irreversible process<sup>82</sup>”, an notion that appears unquestioned nowadays. Even critical contemporaries that rejected the anti-democratic aspects of the technocratic corpus of ideas and the idea of something like energetism, did credit the movement with diffusing knowledge about topics that were not part of public discussion until then, such as energy consumption and quantitative macroeconomics. The wave of attention for the technocratic ideas led to people discussing issues like technological unemployment and the inefficiency of the capitalist system with friends, colleagues, and family, while commanding knowledge and terminology formally restricted to technologists.<sup>83</sup> The Technocrats did show some foresight, e.g., they imagined electronical payments and a larger role for communication technologies. More importantly, the high social status and decisive socio-economic impact of technologists they envisioned has since been realized. While the Technocratic movement was ultimately unsuccessful, its ideas were impactful and disseminated widely.

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<sup>82</sup> Chase, p. 29.

<sup>83</sup> Raymond, p. 184; Sean F. Johnston, ‘Technological Parables and Iconic Illustrations: American Technocracy and the Rhetoric of the Technological Fix’, *History and Technology*, 33.2 (2017), 196–219 (p. 49).

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