AMERICAN UNIVERSITY OF BEIRUT

A GRAVEYARD FOR EXPERTISE: POST-INVASION IRAQ, AND THE DEATH OF TECHNO-POLITICS

by
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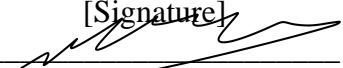
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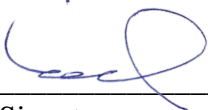
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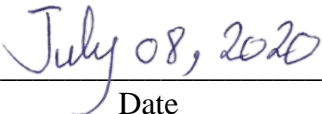   after:
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AN ABSTRACT OF THE THESIS OF

Hind Abdulraheem Akooly   for   <u>Master of Arts</u>
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Title: <u>A Graveyard for Expertise: post-invasion Iraq, and the death of techno-politics</u>

Iraq, the world's third-largest oil exporter, has been sliding towards energy dependency post-2003, through a significant increase in electricity and gas imports. Almost every summer, Iraqis have been taken to the streets demanding better electricity provision. Engineers, the technical backbone of the energy sector, have been participating in protests, rallies and vigils, and some were organizing public socio-political talks. In 2018, a massive public outcry in Basra, home of 70% of Iraq's oil production, has triggered a notable improvement in electricity that was supported by engineers and acknowledged by the minister of electricity. Against a rich literature on the role of experts as vectors of power in colonial and post-independence eras, this research investigates the socio-political role of engineers and the limits to such role, in a post-authoritarian and neo-colonial context. Their socio-political role is explored through their interaction with politics in their line of work, active political participation and position towards techno-political endeavours. Techno-politics here is generally defined as technical interventions attempting to de-politicize politically and economically contentious matters.

A qualitatively led mixed-method was adopted for data collection and analysis. Thirty-three personal interviews were conducted with engineers and experts in the energy sector in Basra, and a comparative historical approach, including synthesizing descriptive statistics from exiting datasets and reviewing relevant public laws and reports was used to reflect structural factors. The results indicate that the socio-political role of engineers is marginalized by politics. Under the hegemony of political quota disguised as ethno-sectarianism and global capital formations, both the state's institutions and engineers' role are systematically undermined, by various interest groups to allow resources extractions. Prominence is given to rent-maximization and short-term profit-making through unabated financial circulation, at the expense of the public good and public accountability. The developing organic intellectuals of the technical base are limited by various interest groups operating with impunity and assimilated by neo-technocratic anti-politics machine advancing free-market policies. The research suggests the death of techno-politics of massive construction projects indicated in most of the literature. The debate might be taken further by examining how experts relate to power in a cross-contexts analysis, particularly, at times of global pandemic and recurrent health-related lockdowns.

CONTENTS

LIST OF ABBREVIATIONS

BoR: The United States Bureau of Reclamation.

CPA: Coalition Provisional Authority, US-led.

IEA: The International Energy Agency.

IFIs: The International Financial Institutions.

IMF: The International Monetary Fund.

MNCs: Multinational National Companies or Corporations.

WB: The World Bank.

To those bearing up the mental labour of swimming against the current, to Baba.

CHAPTER I

INTRODUCTION

The energy sector - namely, oil, gas and electricity- is one of the most pivotal economic sectors in the West Asia and North Africa region. It encompasses the region's most vital commercial and financial circulations. In Iraq, the energy sector plays a central role in the country's politics and ensuing power struggle, both because of its influence on essential services for the population and as oil exports are the primary source for the government revenues. Despite being the world's third-largest oil exporter[1], Iraq has been sliding into energy dependency post-2003. The electricity sector has suffered years of wars, economic sanctions and insecurity. It hit an increase of 116% in electricity power imports between 2010 and 2017[2]. Since 2003, Iraqis have been taken to the streets almost every summer, demanding better electricity provision. The outgoing minister of electricity aimed at diversifying suppliers and creating regional utility market (Alhurra Iraq, 2019, 40:59; Alsumaria, 2020, 47:00; AUISofficial, 2020, 34:36)[3]. In effect, Iraq remained vulnerable to a volatile geopolitical environment, including a US-Iran political-economic rivalry. The minister was also pushing for tariff reforms and privatization program advanced by the World Bank, as the main way to improve performance, cost recovery and decrease government

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[1] https://www.investopedia.com/articles/company-insights/082316/worlds-top-10-oil-exporters.asp

[2] The figure was synthesized from the International Energy Agency's existing datasets, https://www.iea.org/countries/Iraq

[3] Various televised interviews and a webinar with the ex-Minister of Electricity posted later on the organizers' official YouTube channels.

spending (AUISofficial, 2020). In parallel, Iraq's electricity losses to total power output increased from an average of 6.8% in the early 2000s[4], below the worldwide 8.7% average losses recorded at that period[5], to 50.6% in 2014 as opposite to 8.2% worldwide losses.

Iraqi engineers, the backbone of the energy sector's technical expertise, have also been active on the streets. Engineers have been organizing as individuals and through the engineering syndicate demanding employment and protection of their rights in the public and private sectors. Also, engineers were actively supporting nationwide protests demanding reforms and systemic changes. According to some engineers, the government's reaction to their protests along with the holders of post-graduate degrees in Baghdad mid-2019 was one of the primary triggers to the countrywide social mobilization in October in the same year (Intrv.29, personal communication, March 20, 2020). If the capital had been the scene of significant social mobilization, Basra, Iraq's economic hub and source of 70% of its oil production is known to be the birthplace of most of the nationwide protests. Inadequate essential services usually incite such demonstrations. For instance, one of the most significant countrywide protests in 2015, started in northern Basra against bad electricity. In 2018, another major public protest in Basra had triggered a significant improvement in electricity provision in the governorate. Basra's electrical engineers saw that the 2018's protests had unlocked several projects that were otherwise blocked by politics. On their side, both the outgoing and incoming ministers of electricity spoke proudly about the ministry's achievement and how for the first time in years electricity was not the reason for 2019's protests and

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[4] https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS?locations=IQ

[5] https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS

that Basra was getting almost 24/7 electricity (Alsharqiya Tube, 2020a; Nabil Jassim, 2020a). Many engineers in Basra have been supportive of the protests' movement, and several of them had participated in rallies and vigils organized by Basra's engineering syndicate. Some engineers were organizing public talks and workshop discussing Iraq economic and political contexts in squares and the engineering syndicate. Between a highly politicized energy file, floundered development in the electricity sector and public protests, what is the socio-political role of engineers? What are the limits of such a role? How did engineers in the energy sector contend with politics in their line of work? Moreover, how did systemic changes in Iraq affect them? How did Basra's electricity eventually improve, and is this improvement sustainable? In their capacity as electrical and petroleum engineers, why would Iraq buy electricity and gas? As engineers play a central role in pivotal files, such as electricity, could they be agents for social change? Adopting a qualitatively led mixed-method and talking to engineers in Basra, this research examined the socio-political role of engineers and the limits for such role.

Engineers are widely present in the literature on techno-politics in the colonial and post-independence eras. As the colonial power, states and development agencies actively de-politicized issues to ascertain power; experts are viewed as a muted accomplice. The literature on techno-politics is very rich and had engaged scholars for years. Such works brilliantly unravel socio-economic and political-economic dynamics underlying techno-political endeavour ranging from dams building (Mohamud & Verhoeven, 2016; Swayamprakash, 2014) to social engineering in agrarian societies (Scott, 1998). Their focus remains though on these techno-political endeavours rather than examining the socio-political role of local experts closely, and beyond questioning

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intentionality. They generally discern that experts tend to de-politicize issues in support of power. Engineers are rarely the centre of the study, and when they are, the focus remains on their ideological standings in authoritarian setup (Hanafi, 1997). Most of the work available is based on archival work (Adalet, 2018; Khalili, 2018; Mitchell, 2002), and few involve ethnographic fieldwork (Ferguson, 1994; Li, 2007). The literature on Iraq is meagre, and that on Iraq's experts and engineers is almost non-existent.

Beyond the contexts of development, modernity and authoritarianism, this research investigated the role of engineers in a post-authoritarian, neo-colonial setting. It engaged engineers working in one of the most critical files in Iraq, at times of the tyranny of free-market policies and political quota disguised as ethno-sectarianism. In Iraq's energy sector, both pure technical issues and highly contentious political and geopolitical matters overlap. Technical problems, such as Iraq's lack of gas refinery facilities, and non-technical ones, such as the American and Iranian struggle for hegemony over Iraq's energy file, the free-market policies and Iraq's plunging into global capitalism are various faces to the same issue. Engineers, technocrats and politicians were all grappling with these matters, as the upper hand remained for politics. I basically tried to capture engineers' position from specific techno-political endeavours, with their own words, through personal interviews. Against much of the literature, Iraqi engineers appeared aware of their complex political environment and the limits it imposes on them. Many of them figure closer to Gramsci's organic intellectuals than being pawns of state power and control. I employed a comparative historical approach examining open sources data from social media, news outlets and the International Energy Agency and the World Bank to inject a multiscalar dimension to the interviews' analysis. The respondents' feedback enticed a historicized analysis of

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the socio-political change post-2003 and its reflections on the institutional framework where they operate. By accentuating pre-2003 state institutions' efficiency, by no means, I meant to valorize neither the authoritarian regime nor bureaucratic rigidity. The narrative simply reflects the respondents' personal and professional struggle in feeble state institutions sketched out by the new political setup, and how that had influenced their role.

The thesis took shape while writing. Its structure is carved by the ebbs and flows between respondents' determination to push certain subjects and me pushing back seeking answers to the main research questions. I still had put considerable efforts to ensure that the narrative follows a logical sequence that could be easily grasped by the reader. Towards the end, different themes and topics converge into a palpable conclusion, one that could be further debated. Between a brief introduction and a concise conclusion, sit three main chapters. Chapter one sets the grounds for the debate as it reviews the literature contending with techno-politics. The literature is presented around three main focuses, foreign expertise and modernity, contact between foreign and local experts and finally works that focus on local engineers' role, mainly as nation-builders. It then situates Iraq within the literature before concluding with the problem statement, theoretical framework and methodology. Chapter two is the richest among the three chapters as it represents the main findings with a historicized geopolitical dimension. It starts with a brief introduction to the interviews' context. It then extends a thematic analysis of the interviews' data with a focus on engineers' biographical background, the state, engineers and experts before and after 2003, the rise of the private sector and finally, engineers' political role. It engages available literature when relevant and ends with a question on the potential death of techno-politics. Chapter three

delves into the meaning and interpretation of the key results and its contribution to the available knowledge on techno-politics. It revolves around three main takes that answer the main research questions. These are, the social-engineering post-2003, neutralization of expertise, and the relationship between the organic intellectuals and the neo-technocrats pushing for free-market policies. It ends with a hands-down acknowledgement of the triumph of the free-market over the experts' role. Lastly, the conclusion answers the research questions concisely and re-examines part of the data through the neo-technocratic de-politicizing lens. It zooms-out with a question on the contemporary role of experts in other contexts, amid a global pandemic.

CHAPTER II

CONTENDING WITH TECHNO-POLITICS

Experts, particularly engineers, have been widely present in the literature on techno-politics, albeit chiefly muted. Whether 'agents of development and modernity' (Adalet, 2018:119) or 'trustees managing capitalism's fallout' (Li, 2007:296) or nation and state builders (Mohamud & Verhoeven, 2016; Swayamprakash, 2014), experts are often implicated in the depoliticization of politically contentious issues and the assertion and expansion of centralizing power. It is a matter of fact that discussions on techno-politics in the post-independence era and beyond have uncovered underlying political and economic dynamics in the development apparatuses deployed in the Global South (Ferguson, 1994; Mitchell, 2002). Such discussions were taken further, asserting the role of development and its experts in systematic depoliticization, masking and at times, deepening of pervasive social and environmental injustices, land and water grabbing, and inequalities (Adalet, 2018; Khalili, 2018; Li, 2007). Intentionality aside, experts are by default the planners and implementers of such schemas. Two overarching themes dominate the available literature, first foreign experts as agents of development and modernity, who are intentionally or unintentionally, instrumental for the implementation of explicit or implicit geopolitical agenda. Some authors, such as (Adalet, 2018), aptly capture the collision between foreign and local experts, hence provide a ground to reflect on how their positionality and roles might be different. The second focus is on local experts as key players both in the material as well as ideological engineering of the society, within the processes of state-building and nation-building. Notably, the available literature is vastly written by political scientists, with an intriguing

interdisciplinary approach, and a few anthropologists. Social scientists, however, have rarely shown interest in providing a sociological foundation for the study of the political role of experts (Hanafi,1997). Also, in most of the literature, experts are not the focus of the study but figure within the discussion on the undisclosed effects of the projects they run. When they are the centre of the research, the focus remains on their ideological political standings in an authoritarian regime, where active political participation is almost impossible (Hanafi, 1997). However, in a post-authoritarian, post-colonial era, at times of open market and political quota's tyranny, how do local engineers position themselves towards specific techno-political endeavours? Do they all de-politicize issues, intentionally or not? Are they passive players within the techno-political and geopolitical landscapes? In what follows, I will review the available literature and situate Iraq within it before concluding with the main deductions, research questions, and theoretical framework and methodology.

A. Exported modernity, development and geopolitics

In 1949, Truman announced his Point Four Program whereby he unleashed one of the most significant technical expertise's export endeavour in recent history; he declared:'Greater production is the key to prosperity and peace. And the key to greater production is a wider and more vigorous application of modern scientific and technical knowledge' (Yale Law School & Library, 2008). By 1953, 1,500 Point Four technicians visited 35 countries in the Global South[6]. Evidently, neither prosperity nor peace was the result of the US development programs that had faced several *technical* hurdles. Besides his 'genuine belief' that exporting US technical knowledge would trigger

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[6] https://www.trumanlibrary.gov/public/InternationalAid_Background.pdf

development in 'backwards countries', Truman sought two main goals: Serving US geopolitical interests in the fight against Communism and those of US engineering and construction companies that would implement his plan, (Molle, 2009:488-9). The Cold War period of the mid-twentieth century witnessed the peak of engineers' glory as they implemented development projects and spearheaded the promulgations of modernity in vast areas in many countries. Marred by geopolitical and techno-political dynamics and unaware of the social-economic realities of the countries they targeted, for years the legacies of those interventions had deepened social inequalities, reconfigured local knowledge and displaced communities. From the 1980s and 1990s onwards, the works of James Ferguson (1994) and Timothy Mitchell (2002) triggered tremendous academic interest in scrutinizing the 'extra-scientific' effects of development projects, beyond their recurrent failures. As they approach the subject from different angles, the main aim of the ensuing academic body was to reveal the techno-politics of development and modernity not only as a legacy of the twentieth century's Cold War but in a certain way, as a pervasive, ongoing phenomenon. Engineers, mainly, as foreign experts had conflicting roles in these narratives, but were predominately implicated as vectors of power, rule and politics.

In his study of a Lesotho's development project, Ferguson tackles the actual effect of the development apparatuses' work, regardless of their success or failure. He shows that development is an anti-politics machine with an 'instrument-effect'; whereby it systematically de-politicizes poverty and the state, leading to the expansion of the state's bureaucratic powers (Ferguson,1994:256). Ferguson acknowledges the 'complexity of structures' and 'unpredictability of outcomes' that deform original technical plans, and that development institutions are supposedly 'not in the business of

supporting political realignments' (ibid:69). Hence, he releases experts from the malicious 'hidden intentions', rendering them unaware of the political effects of their work, (ibid:17). They do not figure centre in his narrative beyond being 'parts' of 'the anti-politics machine'. On the other hand, Mitchell stresses the political aspects of the experts' work. Whether tackling fertilizers' factory or the building of Aswan's Dams, flawed designs and technical difficulties were effectively 'covered-up' because those projects reflected 'the political effectiveness of an imperial power', (Mitchell, 2002:42). For instance, he argues that since the building of the original Aswan Dam with British support in 1898-1902, dams became a symbol of modernity and 'states' techno-economic development'. Despite a decline in soil fertility, displacement of the people in Nubia, water loss, increased disease and many other issues, Aswan's Great Dam, completed in the 1960s, became a 'centrepiece of post-war nation making in Egypt', (ibid:45). Engineers came to occupy the social status of a 'Pasha' for their sacred duty in nation-building.

However, Mitchell argues that engineers in reality 'took away local knowledge' by disrupting the original, sophisticated local irrigation system that was more efficient than dams. Widely dispersed existing practices would have endangered the comparative advantage necessary for the diffusion of imperial power and the profit of foreign consultancy companies, (ibid:37). Mitchell viewed engineers and their apparatuses as a uniformed de-politicizing entity[7]. If both Mitchell and Ferguson show

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[7] Mitchell insists that Engineers' plans don't 'precede or stand apart from reality', and despite thousands of dams built around the world, engineers' calculations had never improved', (Mitchell, 2002:37). Ironically, in the 11th century, Ibn al Haytham, a philosopher and an engineer from Basra, was summoned by the Fatimid Calipha al-Hakim to build a dam in Aswan. Ibn al Haytham's field calculations made him realize the inaptness of the project. He refused to build the dam and had to feign madness to evade the Caliph's reprisal (al Qadumi, 2002; Smith, 1992).

how 'modern development' colludes with imperial formations, Scott shows how high modernism stands against imperial formation while empowering authoritarian regimes. In its quest to push rapid industrialization, the Soviet state deployed modern 'social engineering' schemes in agrarian societies to ensure necessary grain to provide food for the urban workforce and finance imported technology (Scott, 1998:209). The state transformed the egalitarian agrarian society into 'larger hierarchal state-managed farms', with cropping patterns and procurement quotas that were centrally decided (ibdi:203). It replaced technically independent peasantry with ones that depend on the state for tractors, fertilizers and seeds (ibid:217). The Soviet collectivization adopted in 1929 not only ensured grain's seizure but also undermined the countryside's resistance by dismantling its social base, at a high human cost (ibid:213).

While Scott exemplifies techno-politics in the state's appropriation of science and experts to assert its power, Mitchell argues that he is concerned with the 'social and political practices that produce both the powers of science and that of modern states', (Mitchell, 2002:312). For instance, he shows how the new reservoir and river movements resulted from the building of the Aswan dam, has facilitated the spread of the gambiae mosquito in the countryside (ibid:38). The new irrigation work had also encouraged the cultivation of industrial crops that suffered a lack of fertilizers as it was diverted to war purposes, leading to poverty and hunger among the farmers (ibid:27). These fallouts of the dam-building had left the malnourished peasants vulnerable to gambiae infections, (ibid:38). However, people in power reduced all these issues into 'limited natural resources and deficient public-health' that were to overcome, yet again, with 'techno-science', (ibid:39). On the other hand, Ferguson is concerned with the

development apparatus and its experts as an anti-politics machine 'whisking political realities out of sight' (Ferguson,1994: XV). For instance, the development apparatus in Lesotho overlooked socio-economic and political dynamics underlying herd-keeping practices. The livestock commercialization project in Lesotho viewed herd keepers as 'backward subsistence farmers' detached from the cash economy. However, Ferguson shows that their livestock protectionism practice was based on social and economic traditions. Lesotho livestock owners were not herders, but migrant workers in South Africa and their livestock served for both prestige within the community and pension fund to be used in case of need (ibid:156). Ferguson explains that livestock commercialization required structural interventions in destocking and privatization of grazing land that the government was not ready to take, as it would undermine its efforts to gain local political support and ensure political control, (ibid:191).

Before wrapping up the discussion on techno-politics in these variant early works, it is worth visiting briefly what Li and Hetch add to it. In the Will to Improve, Li examines the practices in which experts engage. In line with Ferguson, she identifies' problematization,' i.e. rendering a field intelligible for technical intervention, and 'render issues technical', i.e. none political. Yet, she signals a third practice that she labels 'anti-politics: where programs are designed as 'a deliberate measure to contain a challenge to the status quo', (Li, 2007:8). She gives a vivid example of how the Indonesian authorities tried to contain the challenge to park conservation that had disrupted access to resources through incorporating villagers in 'collaborative management program', (ibid:228). Almost echoing Scott's reading of the Soviet collectivization role in undermining the countryside resistance, such anti-politics programs are worth keeping in mind while examining quick-fix interventions in the

electricity sector in Basra. The role of techno-politics in containing opposition is crystallized in Hecht's collection, as she indicates how people in power turned political and social problems into issues of resources management to 'neutralize dissent' (Hecht, 2011:10). In development and modernity contexts, these authors focus on technical knowledge appropriation for political endeavours or the overlapping of both. They view experts as a homogenous group implicated in these practices intentionally or unintentionally.

Later academic writings tackled institutions and agencies that implement the techno-political agenda of the development apparatus. Sneddon et al. explore the extra-scientific dynamics of the US-led Litani's river basin development project in 1950s Lebanon. Unlike Ferguson and Mitchell, they invoke the importance of geopolitical scalar discourse (global, regional, national and local) as they show how US engineers had struggled with internal and geopolitical factors that had changed the contour of the project. For instance, local politicians had redirected the project away from the Israeli borders leaving the experts to face unexpected geological and other technical difficulties. In agreement with Ferguson's emphasis on 'the actual effect of experts' work, although Litani had failed in 'augmenting the US geopolitical alliances' and in 'the hoped-for development benefits for Lebanon', it helped in advancing river basin development (worldwide rather than in Lebanon), as a vehicle for the consolidation of state power and national identity (Sneddon & Fox, 2011:452&458). The Litani project was initiated by the US Bureau of Reclamation (BoR), however, when the US embassy realized Lebanon's limited capacity to absorb Palestinian refugees, it encouraged the Lebanese government to finance the projects through international banking institutions

(ibid:456). It thus connected the country into the global capitalist system through the trap of malicious foreign loans and the ensuing public debt.

If the Cold War agenda of the BoR is evident, the same cannot be said about the US Army Corps of Engineers' peacetime activities. Khalili (2018) brightly discloses the peacetime role of the military Corps of Engineers in advancing US geopolitical interests and establishing the base for capitalist relations in Saudi Arabi, ushering the country into the global capitalist system. She highlights the entanglement between the military engineering corps and the Arabian American Oil Company (ARAMCO). They both helped to create a global network 'of labour, capital, products, services and expertise that decidedly functioned according to a grammar of liberal capitalist Order', (Khalili, 2018: 924). Echoing Ferguson's 'instrument-effect', the US Corps of engineers extended Saudi bureaucratic power by reinforcing oppressive labour and administrative practices (ibid:925). At the same time, they introduced new modalities of management to the Saudi government, such as 'contracting', 'debt production' and 'standards of construction'. Such regulations had ensured the Saudi configuration into the global capitalist circulations. Both Khalili and Sneddon et al. rightfully accentuate the geopolitical factor with a multi-scalar dimension, something that could be extrapolated to Basra's electricity file. Yet, as in previous accounts, they both view experts as a homogeneous entity embedded within the techno-political institutions where they work.

Pushing the techno-political debate beyond 'projects' and 'institutions', Adalet (2018) captures the interaction between US and Turkish engineers implementing an American-backed highways construction project in 1950s' Turkey. Turkish engineers were targets for modernization schemes that transcended passing technical expertise and managerial skills to nurturing 'teamwork and intimacy', (Adalet,2018:120). For

instance, Turkish engineers were encouraged to abandon the residues of 'the German standard training', and to get closer to the machines and unskilled workers', and to get their' hands dirty' as they overcome the 'Pasha complex'. Thus, US engineers had designated their Turkish counterparts as the 'tutors of modernization for others' (ibid:114). Their interaction was often tainted by moments of 'disconnect and mistranslation' due to 'competing visions of development between the US and their Turkish counterparts' (ibid:13). Yet, American-trained Turkish engineers had a role in facilitating projects' implementation and defusing some tensions (ibid:102). Although Adalet engages with the position of the Turkish engineers, the archive work she examines reflects mainly their position towards the attitude of US engineers (ibdi:105) and much less of a political stand on the discriminative outcome of their interventions. For instance, as highways were supposed to increase mobility around the country, Kurdish communities continued to undergo forced migration and resettlement (ibid:195). The political stand of the Turkish engineers is marginally captured in a 1945's protest against the hiring of American architects for constructions work in Istanbul university. And later in the 1970s, Turkish engineers adopted an anti-imperialist revolutionary stand and formed a 'technical intelligentsia' (ibid:199). Unlike previous accounts on experts, Adalet captures the 'fragilities' and 'uncertainties' that characterize the experts' thinking and work. Rightfully, and in agreement with Li, she does not take depoliticization as a given, but rather at best as a project and 'not a secure accomplishment' (ibid:15).

B. State, nation builders and nationalism

The literature focusing on the role of local experts is much more limited than those engaging foreign experts extending modernity and capitalism. Historically, local engineers - as opposed to 'foreign modernization experts'- played a pivotal role in the post-independence state-building project. Almost uniformly, the arena of such a nationalist construction was dam building sites. India and Sudan are two blatant examples worth consideration. Swayamprakash examines Indian engineers' narrative, as stated in the publications of the Indian Central Water and Power Commissions, around the mid-twentieth century. With an eye of a historian and a political scientist, she shows how a shared history of hydraulic manipulation was employed and publicized to unite and legitimize a shared idea of India, as a nation (Swayamprakash, 2014:158). In line with previous techno-politics accounts, Indian engineers had managed, in Swayamprakash's words to 'rewire a political question into a technological one', rendering solution as purely technical. At the time when the post-colonial state was taking shape, India's diverse geographies were united under the banners of modernity and economic development brought by damming. Within the process, a state' hydrocracy' in the form of India Central Water Commission was empowered in its discussions and justification of technological interventions, in a fashion that more or less echoes Ferguson's 'instrument-effect'. Dams were designated as 'temples of modern India' by its first Prime Minister (ibid:154). For this holy task, indigenous expertise in the form of 'nationalists engineers' was instrumental in keeping the west at bay and consolidating post-colonial nation-building (ibid:155).

In Sudan, beyond state and nation-building, the hydraulic mission served to reconcile and consolidate the regime's military and Islamist power. Mohamud &

Verhoeven (2016) examine the official discourse diffused through the Dam Implementation Unit (DUI) 's publications. The post-2000 Merowe dam building and its publicity provided the authoritarian regime with a platform to disseminate a nationalist, Islamist, modernist narrative employed to revive the national identity and rebalance the political discourse, at times of crisis. The nation-building project offered by the hydro-hegemonic power bridged the entrenched ideological divide between territorially bonded nationalism and transnational Islamism approach (ibid:184). As the Islamists came to acknowledge Sudan's limited resources that hinder its transnational Islamist role, both army generals and Islamists sought internal power consolidation through the reprioritization of the domestic political economy. The hydro-agriculture mission and its dam-building project formed the base of the country's economic revive and a chance for its ruling party to reinvent itself (ibid:185). Interestingly, engineers, bureaucrats and politicians that were leading the process were depicted as 'vanguard of dam-building' and 'soldiers'. They embodied 'the interplay between scientific expertise and personal piety that elevates the people to a higher level of civilization and a new moral order', (ibid:197). Unlike the case with US engineers in Turkey, Chinese engineers supporting the project were figured in the background, 'admiring the work of their Sudanese counterparts'. However, just like other dam projects, Sudan's dam program failed as it generated less electricity, limited agriculture production and displaced people in Nubia and Blue Nile. Engineers are rarely cited in the DIU publications; hence, they do not appear centrally in this narrative, beyond the picture depicted by official discourse. Implicitly, they are the protagonists of the technical enterprise used as a vehicle for the regime's pivotal political agenda. Two years after the publication of Mohamud et al., in 2018, the Sudanese engineers were part of the

Sudanese Professional Association[8] that had led the Sudanese revolution and succeeded in toppling Al-Bashir regime. The Sudanese model is one example that entices us to examine the role of experts beyond being a homogenize muted accomplice to a single form of political power.

C. Iraq's experts, state and empire

Iraq is mostly absent in the literature on techno-politics and the role of experts. Since the 1950s the consecutive nationalist governments took upon itself to build a modern nation-state with a developed economy. For example, between the 1950s and 1980s, more than 16 dams and barrages were constructed, and two of them were used for hydroelectricity production[9]. Also, following the Gulf War in the early 1990s, more than a hundred of Iraq's 133 bridges were rebuilt, and the electricity grid was fixed, (Zangana, 2007:145-6). Iraq electricity production was meeting the demands until 1994[10]. The government had unleashed an all-out reconstruction campaign spearheaded by the Ministry of Housing and Construction and pubic companies and other relevant directorates including the Military Industrialization Corps. Engineers and other experts recall working 24hrs/7 days in shifts. The reconstruction period came almost to a complete halt as of the mid to late 1990s with the increasing pressure of the economic sanctions. The country has had more than 130,000 trained engineers in early 2000 (ibid:145-6); they were the 'nation-builders. By virtue of their scientific degree and

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[8] https://www.sudaneseprofessionals.org/%d8%b9%d9%86-%d8%a7%d9%84%d8%aa%d8%ac%d9%85%d8%b9/

[9] www.fao.org/nr/water/aquastat/dams/country/IRQ-dams_eng.xlsx:

[10] https://www.jadaliyya.com/Details/26706

nation-building role, engineers acquired a 'social status'. Bright students were expected to end up either in medical or engineering colleges. The strictly scientific curriculum, modelled on British standards, had no place for politics or other social sciences. Professionalism was dovetailed with apolitical abstraction. A good engineer will know by heart the serial number of a machine part, that she would immediately diagnose malfunctions by looking at its inside. 'You should be part of the machine', one of my university professors told us, in a way that mimicked Ferguson's views on experts as parts of the huge development anti-politics machine. Such *professional, non-political* role of engineers was partially supported by the Iraqi society's stand from politics, in general. Following the Baathist regime's cruel extermination of Islamists and communists' opposition, the Iraqi society was made to view politics as a demeaning endeavour, a 'distraction to the nation-building task', a 'dirty word', (Li, 2007:24). In Arabic, we would say,*' al siyasa najasa '*. Amid an anti-political environment, strictly scientific education model, that in a way mimics the Turkish German standards in Adalet's narrative, how could 'proud', 'machine-efficient', Iraqi engineers realize the potential 'instrument-effect' of their supposedly 'purely technical' work?

Post-2003, electricity became a highly politicized file. The megawatts produced were one of the empirical methods by which the US CPA[11] would measure the success of their 'state-building project' (Alahmad, 2017:347). The US Army Corps of Engineers was in charge of fixing the power grid in the early days of the occupation. There is no literature investigating their role at that time, apart from the military corps technical reports. The first meeting between the US army corps of engineers and the

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[11] For a good appraisal on the devastated effects of the Country Provisional Authority (CPA)'s tenure see (Al-Ali, 2014).

Iraqi engineers was at best described as 'unique' in one of the Corps reports, 'nevertheless, everyone agreed that the priority is to reestablish power in Baghdad' it concludes, (Wells, 2005:22). One can only imagine the meeting between Iraqi engineers and US engineers preaching to them on how to fix Iraqi electricity infrastructure, that was rendered dysfunctional due to US bombings in the 1990s and years of US-led UN economic sanctions. Iraqi engineers were destined to take a new role as 'state-builders' or rebuilders. Expectedly though, US companies were favoured in the reconstruction contracts over Iraqi engineering firms, despite better offers and know-how, (Zangana,2007:145). Several factors, including insecurity and political rivalry, delayed sectoral development in general. As a result, the Iraqi electricity sector was suffering the consequences of war, economic sanctions, mismanagement, and vulnerability to geopolitical factors. Engineers were struggling to keep up with the increasing demands under difficult technical and political circumstances. Almost every summer since 2003, Iraqis were taking to the streets protesting bad electricity amid scorching temperature and a dysfunctional political system installed by occupation.

In 2009, the first licensing round with the multinational oil companies was initiated following the reestablishment of relative security and state power. The government focus shifted to the development of the energy sector at the expense of other sectors such as construction, agriculture and industry. The once pivotal Ministry of Housing and Construction became almost completely inactive (Alsharqiya Tube, 2020b)[12]. The energy sector, i.e. electricity and oil sectors, figured central in Iraq's politics and ensuing power struggle, both because of its influence on basic services for

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[12] Televised interview with the Minister of Housing and Construction in April 2020, posted on the broadcaster official YouTube channel, see reference list.

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the population and as oil exports represented 90% of the government revenues as per the World Bank data (World Bank, 2018:5). Also, oil fields and electricity stations were often the sites of protests to exert pressure on the government, confirming Mitchell's historical correlation between power and energy (Mitchell, 2009). Despite that, the development of the electricity sector remained behind and Iraq, the world's third oil exporter, started buying electricity and gas since 2011. The *technical* file became the arena of American and Iranian political rivalry after the US reinstated economic sanction on Iran, prompting it to temporarily cut power supplies to the south of Iraq in 2018. In Basra, Iraq's economic hub and source of more than 70% of its oil exports, public protests in 2018 have triggered a considerable improvement in electricity. According to the Minister of Electricity, 2019 is the first year where the protests were not about electricity (Alsharqiya Tube, 2020a)[13]. Some engineers commended the protests claiming that public pressure had unlocked technical advancement that was otherwise halted by politics. Against all the odds, the engineering syndicate and association were organizing rallies supporting Iraq's social mobilization since October 2019.

Between a highly politicized energy file, floundered development in the electricity sector and public protests, what is the socio-political role of engineers? What are the limits of such a role? With their own words, how do they view their role in society? Did the role engineers change with systemic changes in Iraq? What is their position from the protests? In their opinion, what is the reason behind Iraq energy dependency? How did Basra's electricity improve in 2019? Was there some division of

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[13] Televised interview with the Minister of Electricity in April 2020, posted on the broadcaster official YouTube channel, see reference list.

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labour or alliances between the engineers and protesters that have helped to overcome internal political hurdles and external geopolitical factors? How sustainable is this improvement? Do engineers politicize or de-politicize their technical yet politically charged file? How do they evaluate the intervention of foreign experts? Within certain techno-political endeavours, how do engineers position themselves? What political trajectories might they have? As engineers' role figure central in pivotal files, such as electricity, could they be agents for social change?

D. Techno-politics beyond colonization and independency

The literature reviewed diagnoses and unpacks techno-political practices and how experts are implicated in them, mainly, in contexts of development and modernity. Politically contentious issues are de-politicized, and technical solutions are deployed to ascertain power or maintain the status quo. Whether it is the state (Mohamud & Verhoeven, 2016; Scott, 1998; Swayamprakash, 2014), or colonial and imperial power (Li, 2007; Mitchell, 2002) or global capital formations (Khalili, 2018; Sneddon & Fox, 2011), technical knowledge is appropriated for political and economic gains. Engineers, mainly foreign experts have conflicting roles in these narratives but are predominately implicated as vectors of power, rule and politics. Experts are viewed as a homogenous group partaking in techno-politics, intentionally or unintentionally. Local experts are almost missing from the literate or figure as passive participants in state nation-building exercise (Mohamud & Verhoeven, 2016; Swayamprakash, 2014) or the concentration of power in the hands of few actors (Scott, 1998). Adalet marginally captures the interaction between foreign and local experts implementing modernization projects in twentieth-century Turkey (Adalet, 2018). Yet again, the archival work she examines

reflects mainly Turkish engineers' position towards the attitude of US engineers (ibdi:105) and much less of a political stand on the discriminative outcome of their interventions. Hanfi, rightfully shows that engineers are heterogeneous group as he examines their modernizing positions and ideological standings in 1990s Syria (Hanafi, 1997). However, in an authoritarian context, the focus remains on ideological position and discourse, rather than active political mobilization or engineers' position on specific techno-political endeavours.

Beyond the contexts of modernity and post-independency, this research examines the role of engineers in a post-authoritarian, neo-colonial context, at times of the tyranny of open market policies and political quota disguised as ethno-sectarianism. It aims at bridging the gap when it comes to exploring the position of local engineers towards specific socio-political and political-economic endeavours that implicates and limits their work. With their own words, it examines how the role of engineers could have differed with the systemic changes in Iraq post-2003. Given the pivotal role of the energy sector in Iraq and its economic workings, the research focuses on Iraqi engineers working in the energy sector, both in private and public institutions. As mentioned earlier, the energy sector gradually became the focus of the state's economic policies and dominated its commercial and financial circulations. In parallel, local manufactures, agriculture and local commercial exchanges were significantly neglected. Hence, engineers working in the energy sector, the backbone of its expertise, give valuable insight into the state's position from experts in general. Finally, Iraq remains an understudied territory, and the research adds to the knowledge on Iraqi's socio-political and socio-economic dynamics, particularly since the 1980s, mainly through the eyes of engineers working in Basra. The period from the 1980s to 2019, encompasses various

historical junctures that serve well reflecting the variants in engineers' roles and positions. Besides being Iraq's economic hub, and the primary source of its oil production, Basra's strategical location rendered it a significant site for the 1980s, 1991 and 2003 conflicts. Hence, it provides a fertile terrain to research the role of engineers, particularly in the energy file. Lastly, against much of the literature, and beyond abstract ideological standings, Iraqi engineers appear politically aware of their environment and its implication on their work. Also, some of them figure closer to organic intellectuals and agents of resistance to local forms of power, rather than simple tools of techno-political regimes.

More specifically on the theoretical framework, Hecht's definition of techno-politics as 'a concept that captures the hybrid forms of power embedded in technological artefacts, systems and practices.', (Hecht, 2011:3) serves well in identifying certain techno-political endeavours in the Iraqi energy scene. Ferguson's anti-politics machines that 'insistently repose political questions, of land, resources, jobs, or wages as technical problems' (Ferguson, 1994:267) is instrumental in interrogating engineers' position and how they are implicated in those techno-political endeavours. However, instead of the expansion of state's power suggested by Ferguson's instrument-effects (Ferguson,1994:267), what accompanies depoliticization in Iraq's electricity file is the expansion of the open market and geopolitical influences. Engineers' attitude in politicizing or de-politicizing certain files, e.g. World Bank loan or gas imports, sheds lights on their political awareness and trajectories. These concepts serve well the identification of the political and economic dynamics underlying the development of the electricity sector and their actual outcome, particularly in Basra, where 2018' violent protests took place. Also, the role of techno-politics in eliminating

challenges to the system as emphasized in the literature (Ferguson,1994:270; Scott,1998:213; Li,2007:8; Hecht,2011:10) is employed to interrogate post-2018 quick-fix interventions in Basra's electricity. To zoom out of Basra to Iraq and the regional and global geopolitical dynamics, Khalili and Sneddon's multi-scalar geopolitical approach is useful. Such an approach is carefully deployed to capture the dialogue between micro-level and macro-level dynamics in a way that accentuates or limits the role of engineers. For instance, the US and Iran political-economic tension had temporarily influenced Basra's electricity situation, social mobilization and engineers work. It led to a reciprocal relation between geopolitics and local dynamics as the social mobilization had pressured the US to issue a waiver on Iraq-Iran power imports, still being extended at the time of writing. To complement such multi-scalar analysis, the relationship between foreign experts and Iraqi engineers is examined, keeping in mind similar encounters tackled in the literature (Adalet, 2018; Mohamud & Verhoeven, 2016).

Moreover, in chapter three, I employ both Gramsci and Foucault for a second layer of data interpretation and analysis. Gramsci argues that a stratum of organic intellectuals develops from within social groups active in the economic production, that is tasked with giving awareness on the social, economic and politic role of the group (Gramsci & Buttigieg, 2002:5). Gramsci's notion of the organic intellectuals and their relation to the state and society is useful in interrogating the role of activists' engineers and their relationship to the neo-technocrats of the higher up. I also examine carefully the role of the neo-technocrats developing from within Iraq's post-2003 political class in advancing neoliberal policies through public discourse and by pushing specific laws. Foucault's *State, Security and Population* provides a useful frame to interrogate the

relationship between social change and the neutralization of experts in post-2003 Iraq. Foucault's arguments on the modern security techniques acting on the population, and then 'letting things happen' (Foucault, 1978:37&68) is useful in examining social engineering initiated by the CPA post-2003. But importantly, Foucault's emphasis on the necessity of ensuring intense 'circulations' for the political and economic opening of towns, which I employee in examining the prominence given to circulation over quality experts' work in post-2003 Iraq.

Finally, I frequently use the categories of engineers, experts and intellectuals. Although these are three different categories, they do overlap in Basra's engineering context. I explained earlier that the research mainly targeted engineers working in the energy sector in Basra. The majority have graduated from public universities - where they have acquired relevant technical knowledge- and have years of experience in their field of expertise. They were all technical professional, but also many of them considered experts in their fields. In certain instances, I extrapolate the experience of the engineers I have met, to experts in general. This is because engineers working in Iraq energy sector represent crucial expertise in the country's major economic workings. Other economic sectors are generally neglected, along with their expertise. I try not to think of engineers as a homogenous group. While the majority seem to be technically and politically neutralized by various interest groups to ensure maximum financial circulation, some of them were pushing back through active political participation in rallies and the organization of intellectual talks and workshop. Also, very few engineers figure close to power, but as far as they were indirectly implementing quick fixes that required limited technical expertise, they were also neutralized. I have not met unemployed, newly graduated engineers. Those were, by default, sidelined and

struggling to find job opportunities in the private and public sectors. When I refer to experts, here, I mean professionals with relevant technical knowledge and significant experience in their field. They could be both Iraqis and foreigners, depends on the context. As I will discuss extensively in the coming chapters, in Iraq post-2003, there is an absence of significant mega construction projects and long-term projects in the energy sector (e.g. gas refinery factories). Contrary to the available literature on techno-politics, this indicates the sidelining of a significant part of the country's expertise. Local engineers were either replaced by foreign experts dedicated to ensuring maximum resources extraction within the confinement of the oilfields or by less experienced staff to implement less technically complicated projects and quick fix (e.g. mobile sub-stations). In some occasions, some projects were purposely implemented with limited expertise so that it requires redoing and hence ensuring ongoing financial and commercial circulation. Lastly, I use intellectuals to refer to activists' engineers organizing and participating in protests and talks and workshops tackling Iraq's socio-political dynamics, whether in the squares or the engineering syndicate in Basra. The engineering syndicate in Basra has even spearheaded the formation of the National Assemblage for Syndicates and Unions in the governorate (Intrv.4, personal communication, March 01, 2020). I also, refer to the neo-technocrats at the ministry of electricity higher up as intellectuals, but not that of the technical base, as they were generally non-technical experts (e.g. political scientists). They mainly push for neoliberal policies as the primary path for reforming the electricity sector, and the economy as a whole.

Methodologically, as opposed to analysis of archive work and theory, I adopted interviews and comparative historical analysis to give the experts voice while locating

them in the broader political-economic context. Moreover, a part of the historical-comparative work was synthesizing descriptive statistics and time-series from existing data sets to show the connection between micro and macro-level dynamics. I will examine the methodology in the following section before moving to the interviews' analysis.

E. Engineers and the energy sector

Besides being Iraq's primary economic sector, the energy sector, along with the private sector form the leading employers of engineering expertise in Basra (intrv.4, personal communication, March 01, 2020). It hence represented fertile ground for researching the role of engineers in society. Thirty-three semi-structured interviews were carried out with Iraqi engineers and experts working in the energy sector, twenty of them in face-to-face encounters in Basra. The interviews were anonymous and lasted on average between an hour and twenty minutes to two hours. Interview questions were initially chunked into three parts; one tackles the engineer's biography and personal experience; another revolves around Iraq's energy dependency post-2003 and a third with few questions on Basra's electricity and social mobilization. Key topics and related questions mimicked the conceptualization and operationalization of the role of engineers, both technical and political. These topics, such as main job obstacles and how engineers contend with them, were used as a springboard for launching and directing interviews. Also, I used a comparative historical approach to review existing data sets related to Iraq's energy circulation along with different timelines. The data were mainly collected from the World Bank and the International Energy Agency websites. Such an approach assisted in building an initial understanding of Iraq's oil

exports and electricity imports and had informed the design of some of the interviews'

key questions. During the interviews, certain subjects were regularly popping up. They

hence were incorporated in the semi-structured questions, such as, engineer's opinion

on the new pension law or comparing work experience before and after 2003. These

outlines, topics and key questions, in addition to the general category of 'comments' for

both the researcher and the respondent, were used to categorize and analyze the

interviews data. A mixture of literal, interpretative and reflexive analysis methods

(Mason, 1996:78) were employed to come up with a thematic analysis that was used for

further sociological theoretical reflection in the concluding chapters.

One-third of the interviewees were women engineers, and the majority of the

caseload were officials in the public sector as opposed to seven working in the private

sector. The interviewees were mainly electrical engineers, petroleum engineers,

mechanical engineers, and civil engineers as well as one geologist. The average age for

respondents was 42 years old, as the oldest aged 63 and the youngest 24. The majority

had obtained their engineering degree in Iraq, and more than half had graduated before

2003. Most of the respondents had worked either immediately after graduation or a

couple of years later, and hence had considerable experience in their field of expertise.

Respondents held different positions in their institutions ranging from one trainee to

middle managers and a couple of heads of departments. However, the majority held

senior engineering or head of engineers' position. The heads of departments in the

public sector were generally selected through the political quota, hence supposedly

figured closer to power. Yet, they also felt sidelined by political rivalry affecting inter-

institutional coordination and external and internal contracting. Most of the private

sector's engineers were working with big multinational corporations and energy

tycoons. Only two had private businesses and had worked or still working with foreign entities. Apart from a couple of respondents, the rest were all registered in the engineering syndicate in Basra or Baghdad, and one in Amman. The interviews were anonymous to respect the respondents' privacy and allow openness in discussing various matters. Consequently, in the data representation and analysis, I tried to avoid disclosing information that could reveal the interviewee's identity, such as exact post title or employer. In what follows, I will go through the main methods and techniques adopted for sampling, and data organization, analysis and limitations.

1. Sampling, data organization and analysis

There are three main directorates (public companies) in charge of electrical power production, transmission and distribution in Basra. The three directorates were approached directly, and engineers were met on a random basis there; however, more than once, the reception directed me to the Researches and Studies or Planning departments. Beyond those departments and in each directorate, engineers were met using the snowballing technique while keeping in mind age, experience and gender balance. Same sampling methods were applied to interviewees from the petroleum and private sectors. One activist engineer was approached through social media and became a gatekeeper for meeting a couple more engineers. I used written notes to document the interviews, as opposed to recording, as it is not preferred locally and would have made the respondent uncomfortable. Data collected were organized and analyzed using a mixture of manual and electronic methods, capitalizing on the benefits of both (Welsh, 2002). Thematic categories were identified manually to avoid validity and reliability issues associated with the electronic coding, given that ideas could be expressed in

different ways, (Welsh, 2002:5,7). The manageable number of interviews and evident across-the-board thematic issues facilitated the manual categorization of data. Categories were then organized using a simple excel sheet that is also used for generating aggregated information, such as, the number of interviewees in each sector, or the ones that had participated in protests.

In order to acknowledge and utilize the idiosyncrasies of the data, categories were based on 'literal, interpretative and reflexive reading'; whenever relevant, the literal substance of the respondent's answers and comments were used. Other categories were based on what data could imply or what I deduce from them (Mason, 1996:154); for instance, when it comes to implicating politics in the discussion. This data organization approach has facilitated 'a cross-sectional comparison' during data analysis (ibid:157). Moreover, to enhance the analysis derived from the qualitative data gathered during interviews, a comparative historical approach was used to reflect structural factors, and hence connect the micro and macro levels dynamics (Mason, 2006:9). Similar to the exercise done in the initial design of the semi-structured questions, and guided by the interviews' feedback, descriptive statics and time-series were synthesized from existing datasets, and relevant laws and World Banks reports were analyzed to situate the respondents in the wider-socio-political context. Here, I agree with Mason on the advantages of a 'qualitatively driven' approach to mixed methods in understanding the complexity, contexts, and the underpinning lived social experiences (ibid:10). For instance, as the personal narratives, identity and agency of the respondents were shaped by their relation and connectivity with others, e.g. coworkers and supervisors (Mason, 2004:178), they were also limited by structural factors, such as political quota or insecurity. In terms of representation, I integrate the interviewees'

voices within the analysis rather than in standalone long quotations. I purposely adopt

this layout to reflect the broader story produced by the in-depth exploration of the

respondents' feedback and positionality. Lastly, the data analysis, shall not delve into

the political-economic roots of the post -2003 political quota and oil-centred economy

(Al-Ali, 2014), nor the fallouts of the extractive nature of capital formation in Iraq, as a

peripheral country (Amin, 1976; Escobar, 2011; Kadri, 2014). However, in chapter

three, I reemploy a comparative historical analysis to explore certain reality produced

by the factors mentioned earlier and their influences and limits to the role of engineering

expertise.

2. Limitations and mitigation

Interviewees were mainly engineers working in Basra, in the oil and electricity

sectors. The specific context of Basra as Iraq's economic hub and centre for

multinational companies' activities, begs the possibility of generalization. However,

there is an evident across-sectors uniformity when it comes to the role of expert

engineers and factors limiting such a role. Such consistency coming from in-depth-

exploration of the respondents' feedback despite their diverse background, coupled with

the analysis produced by the comparative historical approach and construction of

descriptive statistics from existing datasets, suggest the possibility of extending the

main findings to other areas in Iraq, at least. Also, such contextualization could be

employed for future cross-context analysis (Mason, 2006:17). My background as an

engineer from Basra who had studied in the same university as many of the respondents

and lived through same historical watersheds (wars, economic sanctions…etc.) coupled

with the study of sociology, has influenced data collection and analysis. Particularly, in

focusing on certain topics, that appeared essential in my opinion but were not for the respondents. For instance, questioning the absence of non-scientific subjects in the engineering curriculum pre-2003 or how the engineers viewed Iraq's incorporation in the global financial system. Moreover, at times, my engineering background and work with the International Committee of the Red Cross risked decentering the focus from an in-depth sociological interrogation to problem identification and solving. However, whenever possible, a reflexive perspective was brought to identify and avoid certain reactions and refocus the gaze on the respondent's vantage point (Bourdieu, 2007:63-64; Mason, 1996:7; Mauthner & Doucet, 2003:148). Also, personal impressions were noted separately during the fieldwork and were categorized in a designated column during data analysis (Mauthner et al., 2003:149). One still has to acknowledge though, that 'the author's intentions, emotions, psyche, and interiority are not only inaccessible to readers, they are likely to be inaccessible to the author herself', (Grosz, 1995:13 as cited by Mauthner et al., 2003:425). Finally, because of the COVID-19 pandemic lockdown, thirteen out of the thirty-three interviews were conducted online, missing the added value of a face-to-face encounter. However, attention was paid to select the best timing for the interviewee, and the discussion went smoothly, lasting up to two hours sometimes.

CHAPTER III

THE DEATH OF TECHNO-POLITICS

Most of the interviews were conducted in Basra between the end of February 2020 and early April 2020. The city had witnessed significant protests in 2018 and has partaken in a countrywide social mobilization since October 2019. Controversial parliamentary elections preceded these protests in May 2018 and had led to a belated government formation end of 2018, just for the designated PM to step down in November 2019, following public pressure. At the time of writing, the caretaker government still in charge as the parliament failed to endorse one PM designated by the president, and another newly appointed PM is awaiting parliamentary approval. In the meantime, oil prices are facing a record drop amid OPEC+ talks breakdown and unprecedented COVID-19 pandemic worldwide lockdown[14]. Amid all that, a US and Iranian proxy war is ongoing in Iraq. Iraqi military bases hosting US military personnel continued to be targeted by Iranian-backed militias while both countries are trying to influence the new government's formation to secure their own interest[15]. This escalation came following the killing of the commander of the Iranian Revolutionary Guards and the deputy head of Iraq's Popular Mobilization Forces in an American drone strike, early 2020, (Ahmed Mehdi, 2020). In response to COVID-19, the authorities have

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[14] https://www.aljazeera.com/ajimpact/oil-prices-plunge-opec-talks-break-200406014132502.html?utm_source=website&utm_medium=article_page&utm_campaign=read_more_links

[15] https://www.nytimes.com/2020/03/29/world/middleeast/virus-iraq-oil.html

imposed semi-strict measures of physical distancing and reduced presence to 50% in the

public sector's institutions, including electricity and oil sectors, through shifts system.

In parallel, the private sector, particularly, multinational companies in the electricity and

oil sectors, continue their work unabated. Lastly, in February 2020, the US has extended

Iraq's electricity waiver to exceptionally buy energy supplies from Iran, concurrently

sanctioning Iraqi individuals supposedly benefiting from the exemption to funnel money

to the Iranian Revolutionary Guards[16]. Amid all the mentioned ups and downs, the

parliament has approved a new pension law at the end of 2019, that has anticipated the

retirement date to 60 instead of 63[17]. The law took effects in January 2020 and was

incorporated in the discussion by several respondents. Supposedly, it aims at absorbing

increasing youth unemployment[18]. In what follows, I will share thematic analysis of the

interviews' main findings with a focus on engineers' educational and technical

background, state and experts before and after 2003, the rise of the private sector and

finally, engineers' political role.

A. Experts, expertise and knowledge hoarding

The majority of respondents were educated in Iraqi public universities, in Basra

and Baghdad. Besides being free-of-charges, public universities are known for being

more competitive, academically prestigious and scientifically robust than private

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[16] https://www.state.gov/irgc-qf-sanctions-and-iraqs-electricity-waiver/

[17] Ironically, it seems that the International Financial Institutions might be behind the new pension law. According to an MP, the IFM has requested Iraqi PM al Abadi back in 2014 to impose a new retirement age of 60. https://youtu.be/FPwUoiqFlzc

[18] https://gds.gov.iq/iraqs-parliament-approves-changes-to-pension-anti-corruption-laws-debates-new-election-legislation/

universities. Studying engineering was not a personal choice for many of them. As per Iraq's educational system, students get into universities through national streamline systems *(insiyabiyeh)* chiefly based on Baccalaureate exam final scores, and then personal choice. Engineering was an option for better employment chances, particularly for petroleum engineers, while few of the respondents had a passion for engineering, mathematics and electricity. Given the strict examination system and stiff scientific curriculum, students who make it to graduation, leave as proud engineers. Before 2003 engineering students had only one non-scientific class on National Political Education *(althaqafa al Qawmiyeh)*, focused on Baath party ideology. Twenty-one respondent hardly attended it to pass. Post-2003, classes on Human Rights, Democracy and at times, Engineering Ethics and Economy were incorporated in the curriculum. However, apart from one or two respondents, the majority said those classes were not essentials, and they also had attended to pass. While one of the two respondents who had been educated abroad (American education plus an MBA) was politically active since 2011 and displayed a commitment to American neoliberal modernity (hoping for Basra similar to Dubai), the other with higher education from Australia was among the few who tried to de-politicize the electricity issue. The fact that the former work in a family business while the latter occupied a middle management public post might have influenced their ideological position.

The majority of the participants had factored politics in the discussion, regardless of their educational background. Yet almost all the ones that had taken non-scientific subjects in the university post-2003 showed support to the protests movement and had once at least participated in them. One could argue that all the respondents are intellectuals in the Gramscian sense. As they exhibit a certain 'conception of the world

and 'a conscious line of moral conduct' and hence contribute in sustaining this 'conception of the world or modifying it'- that is, they 'help generate new ways of thinking' (Gramsci & Buttigieg, 2002:82). From that perspective, the post-2003 engineers are the new intellectuals, who are not only concerned with 'momentary generation of sentiments and passions', nor are 'a mere orator', but could also be 'organizers' and 'persuaders' (Gramsci, 2002:83). Majority of the ones that have participated in the protests are young engineers. They were struggling to utilize their potentials amid a dysfunctional public sector and a seemingly competitive private sector, both influenced by nepotism. Some of their earlier political participation was against unemployment. This was a relativity new situation exacerbated by the abolishment of the engineers' central appointment system[19].

In the 1980s, the Iraqi government issued a decree tasking the Ministry of Planning with the central appointment of new graduates in specific specialization given priority to electrical, mechanical and systems engineers. The appointment was in ministries related to critical sectors, such as oil, irrigation and other industries[20]. The central appointment system was competitive based on graduate academic performance. For instance, up to 2002, the top ten (followed by the first quarter) graduate engineers were assigned to the Ministry of Oil and the Ministry of Electricity. The system was halted post-2003 except for a few months in 2016 for the assignment of petroleum

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[19] https://www.youtube.com/watch?v=yuqlC6wBGD0, https://www.youtube.com/watch?v=yma7UmctFok, https://www.youtube.com/watch?v=H_rPDP2sppY

[20] http://iraqld.hjc.iq/(S(pnr3ts45cgwfjiue0eh3u345))/LoadLawBook.aspx?SC=280320069057333 http://iraqld.hjc.iq/(S(pnr3ts45cgwfjiue0eh3u345))/LoadLawBook.aspx?page=1&SC=&BookID=15076

engineers. In parallel, hundreds of private universities were established all over Iraq graduating thousands of engineers every year, just to face unemployment, as various industries withered. In parallel, graduates of medical schools, including medical institutions and private universities, were enrolled in the central appointment system. There is no public statement on why the central appointment system was halted for engineers. Some respondents indicated that it was stopped because the public sector could not absorb the significant number of new graduates. It still reflects the state's policy and priority sectors. Apart from the state's disinterest in infrastructure and industries other than oil post-2003, medical staff had less influence on the country's economy compared to engineers and their role in the pivotal energy sector and its ensuing commercial and financial circulations. The exclusion of medical graduates from the public sector or their push into the private sector did not seem essential. At any rate, while medical graduates continued to secure a basic chance in the public sector, the new policy had left the newly graduate engineers to a job market based on nepotism rather than competence, both in the private sector and for whatever limited chance in the public sector.

More than one respondent claimed that most of the new recruitments were based on nepotism or political quota, while the minority was based on merits[21]. If in the public sector key positions were occupied based on political quota, such positions were reserved to foreigners in the private sector. As it will be discussed further in the following sections, this approach was adopted by various interest groups to ensure control over policies, and hence maximum rent-seeking and resources/profit extraction.

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[21] Respondents with different background, employer and age gave same percentage of 70% of the new recruits based on nepotism and political quota and 30% on merits.

One young petroleum engineer said that she was taken by mottos of 'diversity and equal opportunities' in one of the Multinational Companies (MNCs), just to face discrimination as an Iraqi woman working there. Foreign women engineers with less experience and skills than hers (e.g. could not speak English[22], or never been to the field) had fairer work holidays balance and better chances for promotions. According to the Iraqi Investment Regulation, foreign companies are required to prioritize Iraqis in recruitment, have minimum 50% of their staff Iraqis and use local raw materials (The National Investment Regulation No. 2, 2009, art. 30). However, according to respondents working in the private sector, Iraqi's are hired mainly in unskilled jobs. Key positions, including technical, are filled by foreigners to keep control over policies. In one instance, an Asian construction company imported basic materials from their home country to support their home economy according to a deal with their government (Intrv. 30, personal communication, April 02, 2020). However, it would have been cheaper and quicker to buy the materials in Iraq. This is one example among many that shows the prominence given for circulations and proliferation of across borders contracting and what it entails in terms of transport/logistics contracts, for instance.

In the public sector, as the new pension law took effect, vacancies produced were far behind unemployment numbers. A middle manager engineer stated that, for 380 staff put to early retirement (around 40% of them were technical experts, including engineers), his directorate had to take in 9,300 people on temporary contracts and daily payments. Majority of the recruits were not experts or did not have relevant specialization. Some senior engineers commented on the limited skills of the new

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[22] I don't provide further details to respect the interviewee's anonymity, but foreign engineers included Swedish, Mexican, Russian and Chinese.

graduates, even when it comes to the basics of engineering, blaming that on the private universities. This had exacerbated concealed unemployment, an underlying problem in the public sector. Another middle manager commented that, while his public company has 30,000 employees, only 5,000 are actually working. Despite going down to 50% staff presence because of the COVID-19 pandemic, work continues smoothly, another engineer remarked. As will be discussed in later sections, these temporary employments were used by the central authorities to hastily absorb public anger. Unlike the concealed or revealed alliances between political power and experts that is noted by Mitchell, Scott and others, the new government here seemed to lose interest in engineers, a significant stratum within society, as it shifted to open markets policies. Importantly, such an approach for new hiring had rendered the vectors of technè, non-technical. Eventually, engineers were left to their own devices to face unfair competition dominated by nepotism, political quota and foreign favouritism. Some engineers still hoped that technical training would increase their chances in the job markets.

More than half of the respondents have participated in technical training abroad. Some had technical training in Iraq, described as a routine step to be eligible for seniority upgrade. According to the respondents' feedback, post-2003, technical training abroad lasted 10-14 days on average. Some respondents commented that such a period is too short to learn what is equivalent to a university course of three months; others did not find encouragement to apply what they have learned upon return. Selection of participants was partially tainted by nepotism. In some case, a roaster was kept for a blanket inclusion regardless of the relevancy of the training to the selected staff member. An engineer in the public sector was part of a project to establish a system on 'competence management' that would gage staff technical skills and required training,

beyond job titles. The system was supposed to be connected to training and missions abroad and would have led to more integrity and credibility in selecting staff for technical development. However, the project was terminated halfway, allegedly due to lack of financial resources, as it involved buying software license. In one case, an engineer had two competent, experienced welders in his team turned down for a technical training aboard, for not having appropriate educational level. He later came to know that the director's secretary and driver replaced them; one of them was illiterate. Senior engineers remembered focused, relevant and longer training pre-2003. Engineers were sent for 2-6 months training in Europe to come back as *experts*[23] in their domain. If I am to refer back to the meaning of experts within the literature, then they were considered experts for possessing advance technical knowledge in their field of expertise.

Things were more complicated in the private sector as everyone was left for themselves to develop their skills. Iraqi Investment Regulation states that investors were obligated to train and develop the skills and competencies of their Iraqi staff (The National Investment Regulation No. 2, 2009, art. 20). However, with oil prices going down and as companies were driven by short-term maximum profit policy, staff training was not a priority. One petroleum engineer working in Multinational Oil Company was told that 'the company does not have money to spend on her training', (intrv.33, personal communication, April 04, 2020). Another electrical engineer with years of

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[23] As mentioned earlier, experts here refer to people with advanced technical knowledge in their field of expertise. Many of them had previous practical experience and accrued more experience upon return by applying what they've learned. In the electricity sector, according to the respondents, and as per the comparative historical analysis of WB' data (see next section, e.g. Iraq technical losses were below the worldwide average), their expertise was employed in advancing the electricity sector, for the public good.

experience working in foreign companies has not had technical training at all. Instead, foreign companies were attracting senior engineers with relevant experience from the public sector. An engineer with five years of experience could be paid in the MNCs five times the salary she gets in the public sector, if not more. More than one respondent mentioned the migration of expertise from the public to the private sector, but still not as a major phenomenon. The government imposed on foreign companies not to rehire public sector engineers before six-months have passed on their resignation. Also, the state has allowed engineers to take five years of unpaid leave to work with a foreign company. Although it is one way to keep expertise in the long run, it raises questions on potential conflict of interest.

Unlike Adalet's Turkish engineers trained in the US that have become enablers between the US and Turkish engineers (Adalet,2018:102), none of the respondents mentioned utilizing their training beyond office-organization or self-knowhow. In Adalet narrative on the US-led highway program in 1950s Turkey, the America-trained Turkish engineers played a crucial role in defusing both technical and political tensions. For instance, Turkish MPs criticized the quality of the US involvement and the imposition of the US model with disregard to the Turkish reality (ibid:104). Turkish engineers also complained about the language barrier and the conditions of the cooperation where US engineers' written requests were taken as directives rather than suggestions. In those occasions, the Turkish engineers trained through the US technical exchange program were the ones reminding of the value of the US engineers' experience and specialization, (ibid:105). In Iraq though, the issue was not only with the nomination criteria and length and impact of the training, but there was no capitalization on the acquired experience neither in a technical nor political sense. Some senior

engineers with extensive training aboard were assigned positions with no contact with the MNCs. Engineers who were trained in Russia and spoke the language were not even in contact with the Russian oil companies, let alone given a chance to challenge or facilitate contact with foreign engineers. This was also due to the nature of the contracts signed with the MNCs after the first licensing round in 2009. What comes out clearly, however, is that engineer's expertise and know-how, rather than being valued, nurtured, and maximally utilized, tended to be neglected and, when present, sidelined. The interaction between Iraqis engineers and foreign engineers will be discussed in the following sections in greater detail, focusing on the recurrent issue of knowledge hoarding.

- Knowledge hoarding

For both Mitchell and Scott, manipulation of technical knowledge and reorganization or exclusion of local ones had built imperial power and ascertained central authorities. Knowledge hoarding in Iraq had also limited the role of local engineers; however, the ramification of interest groups led to different implications on the relationship between technical-knowledge and power. Knowledge hoarding served individual career interests of some senior Iraqi engineers as it did for some foreign experts. On the other hand, technology hoarding in some MNCs meant their relevancy and ensuing profit. Similarly, their utilization of Iraqi engineers' local knowledge of sites and technical know-how, otherwise idled in the public sector, translated into profit and served global capital accumulation. Beyond profit-making, hoarding technical knowledge from Iraq engineers and ensuring relevancy of 'foreign experts' was necessary to eliminate potential local social and political challenges. Such an approach rather goes in line with the literature. In all cases, knowledge hoarding, manipulation

and idleness had all limited the role of local engineers, along with other factors that I will discuss in what follows.

Knowledge hoarding was one issue brought to the discussion by electrical and petroleum engineers, across-sectors. Several respondents expressed their frustration with the lack of cooperation, technical mentorship and information sharing from senior engineers. Knowledge was concretely translated into power and material gain. In the public sector, some senior engineers were hoarding information, fearing competition and wanting to maintain their status and power. The government had invested in them with various technical training since 2003, just to end up in idle departments not putting their knowledge neither into practical nor into theoretical use. Although structural factors had influenced technical idleness, as will be discussed later, passing or keeping technical knowledge was a personal choice. The in-depth discussion with engineers across sectors, with different background, shows that a culture of individualism, competition, struggle and frustration prevailed in the workplace. The opposite scenario where knowledge is shared and nurtured, if ever existed, would be the exception. In one of the interviews, a senior petroleum engineer commented that he would refer me to his colleagues. But, they would not 'share information' if they see no benefit for them in the interview, he added (Intrv.21, personal communication, March 06, 2020). On the other hand, more senior engineers remembered pre-2003 as a time of cooperation, teamwork, and healthy competition to achieve a quality job. They were mentored by highly qualified foreign experts in the 1980s, contracted by the Iraqi government within certain ministries, for that purpose under close oversight. One senior engineer was trained by Indian and Egyptian experts whom she remembered as very competent, polite, and supportive to her as a young woman engineer (Intrv.27, personal

communication, March 20, 2020). She had trained many engineers afterwards, something that was confirmed by other respondents.

Post-2003, Iraqi engineers were mainly dealing with foreign experts from the multinational companies incorporated in the energy sector, as part of the government's open-market policy. When it came to public and foreign private sectors partnership, Iraqi engineers spoke about technology hoarding. For instance, even when there are shared databases, Iraqi engineers will have limited access. In other occasions, technical maintenance carried out by foreign engineers will be conducted after the working hours or via remote-control systems from Europe. Most of the respondents' detailed feedback indicates that when profit is involved, the equation changes. Even in the case of Iraqi engineers working in the multinational companies, most of the time, foreign experts hardly shared technical knowledge; engineers were finding their way with manuals, through the internet, and at times by paying for their own technical training abroad. One young engineer explained that some foreign experts would not share technical information, in order not to jeopardize the need for their presence in Iraq (Intrv.33, personal communication, April 04, 2020). The technological hoarding by foreign experts served two main purposes. In one hand it served the personal interest of individual foreign experts, by securing their relevancy, i.e. their job. For corporations and the state, this represented extra financial burden as foreign experts were paid much higher than local ones. However, on the other hand, both corporations and the people in power had an interest in preventing the formation of technologically abreast, independent and socially powerful local experts that could become a socio-political threat. Despite Iraqi engineers' technical capacities, foreign companies had technological advancement (that could have been passed to the Iraqi engineers), and in

some occasion experience in other contexts, when it comes to oil extraction. When asked about the added value of foreign experts, almost all respondents mentioned management and technology as opposite to same-level or superior Iraqi technical skills and knowledge of local sites.

Mitchell gives two vivid examples of the relation between technical knowledge and political power, that are worth revisiting before discussing how the situation in Iraq might be different. As part of Egypt's techno-economic development, British engineers building Aswan dam in the early twentieth century had disrupted a better functioning local irrigation system. In another case, a Boston based consultancy firm proposed a new 'cleaner' technique for building mud houses, although the people of the Nile valley have been building mud houses for thousands of years. In both cases, common old knowledge was disrupted, reorganized and concentrated to 'provide means for building imperial power or profit for consultancy firms', (Mitchell, 2002:42). Scott discusses several examples of how imperial high-modernists planning and organization had excluded and re-arranged local knowledge to ascertain power (Scott, 1998:6). For instance, in the collectivization of Soviet Russia, regional specialization was introduced in agricultural livestock production, as one kolkhoz would produce cattle's fodder, and another would raise and breed them. Specialization, Scott argues, made it easier for the agronomist to manage the production, and as it 'increased administrative routinization', it assigned 'more power and knowledge to central officials', (Scott, 1998:212). What is evident in Iraq, however, is a complete departure from a centralized state knowledge and power monopoly to a multiplication of decentralized individual and corporates power poles. In a post-authoritarian system, under the rubrics of neo-imperialism, a centralized form of knowledge, whether for state power manipulation or the public good

is out of the equation. Power manipulation is broken into individual advantages in a competitive working environment and corporate profit-making. Knowledge is manipulated and hoarded for real and imaginary personal gains in the case of some senior engineers, who were sidelined in a public system infested by the political quota and multiple interest groups. Imaginary for senior local engineers at times, because in many occasions, power within the various sectors is not defined by technical knowledge but rather by the political quota and the post-2003 new socioeconomic system, as I will discuss in chapter three. The other form of decentralized knowledge monopoly was driven by profit-making in the MNCs leveraged by technological advancement. Yet again, this technological advancement was hoarded to limit the potential socio-political challenge to arrangements that were conducive to maximum extraction of rents and resources. This new knowledge and power arrangements were made possible by the systematic weakening of the state, as I will discuss in the next section.

B. The withering state and thriving market

The early 1980s was recalled by senior electrical engineers, as *the time of development and construction*; in the presence of qualified foreign expertise and companies that were contracted by the government (mainly from the east, e.g. Indians, Polish and Egyptians). Electricity production was covering consumption, materials were regularly coming through AbuFlus port, and warehouses were full. Despite the war with Iran, engineers were 'racing to work'; they would attend to power malfunctions regardless of the risk, just 'like soldiers', (Intrv.27, personal communication, March 20, 2020). Women engineers had a leading role, as many men were at the frontlines. They loved their work, the country and felt proud to attend to the people needs by restoring

electricity. Their work was closely followed and 'recognized' by their directors, both

materially with financial bonuses, and emotionally with recognition letters. The

organization was key; they had sectoral maps for Basra. An Indian company did a

whole study of loads and stations, identifying the grid's jamming junctions and potential

solutions and produced maps. Unlike foreign companies post-2003, the government had

tasked those companies with passing knowledge to Iraqi engineers and producing

technical outcome within a limited timeframe, under close state oversight. According to

lengthy discussions with various senior respondents, these companies were tasked with

assisting in building the state's infrastructure, as opposed to current MNCs driver by

unfettered resources extraction and profit-making. All maps were burned during 'the

1990s' events' (Intrv.11, personal communication, March 03, 2020). The early 1990s

marked a challenging turning-point for electrical engineers in Iraq, and particularly in

Basra. Those years were marked by *'politics, war and economic sanctions'*, as put by

one respondent (Intrv.27, personal communication, March 20, 2020). Several power

plants were razed to the ground by Americans attacks, neutralizing more than 60% of

the governorate power generation, a main contributor to the country's power grid. The

government mobilized its best engineering expertise, including engineers from the

Atomic Energy Unit to reconstruct main power plants, such as al Hartha power plants.

One senior electrical engineer explained that there was a personal conviction that

'technical problems is up to the engineer and could be solved, there was work-spirit

(*rohiyat amal*)' (Intrv.20, personal communication, March 05, 2020).

By 1994, around 70% of Basra's electrical power was restored, including two

of al Hartha's four units, built out of the bombing debris and locally manufactured

materials (Intrv.20, personal communication, March 05, 2020). Lack of materials

because of the economic sanctions was an obstacle but also a reason for innovation. One senior woman engineer recalled leading a team of engineers that had created alternative designs from locally manufactured materials, and their names were engraved on one of the power stations as a recognition (Intrv.27, personal communication, March 20, 2020). Another engineer explained that despite the lack of equipment, work was moving smoothly, and 98% of projects were implemented, there was a clear plan and 'one oversight entity', (Intrv.25, personal communication, March 14, 2020). There were clear institutional procedures, and official positions were filled based on seniority and experience, and the electricity directorate even had returns (Intrv.9, personal communication, March 03, 2020). Baath party members were occupying key positions, but not the technical leaderships, and still, directors had to have the necessary expertise. Several respondents explained that sovereign ministries *(alwazarat al siyadiyeh)* were for high ranked members of the Baath party, but experts and technical staff ran other ministries. World bank records showed that Iraqi had kept electricity losses around 5% of total production during the 1980s, below the worldwide 8% losses recorded at that period. It went down to 3.8% in 1997 as opposite to 8.4% worldwide losses[24]. There were no data showing consumption patrons and access to electricity in 1980 and 1990s. However, the International Energy Agency records showed a slight increase in electricity consumption during the 1990s[25].

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[24]Descriptive statistics produced from comparing two different timelines from the WB existing datasets,
https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS?locations=IQ
https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS?end=2014&start=1960

[25] https://www.iea.org/countries/Iraq

The reconstruction fever was followed by years of slow development that was partially revived after 1996 memorandum of understanding (MoU) as part of the 'Oil for Food' program. Many respondents recalled the MoU as flawed and corrupt, and many people were arrested as a result. For instance, the work in another unit in al Hartha that had started in 1999 by a public company attached to the Military Industrial Corps and Russian companies was finalized only in 2017. One senior engineer working in the private sector recalled that it was difficult to find a job and live a decent life in the 1990s. Still, the state was run through functioning institutions *(dawlat moasasat)* (Intrv.4, personal communication, March 1, 2020). The two senior petroleum engineers met, on the other hand, complained about bureaucracy, rigid procedures pre-2003 and directors ruling from their desks, that had limited implementation along with the lack of materials and the corrupted MoU. Lack of modern technology due to the economic sanctions was indicated as a major obstacle in the petroleum sector. Unlike the electricity sector, respondents mentioned that Baathists dominated the position of head of the division and higher, with only around 60% having the relevant experience (Intrv. 21, personal communication, March 06, 2020). All respondents indicated dire economic situation pre-2003 and lack of financial privileges compared to post-2003 where salaries of petroleum engineers increased five-folds, for example. Also, engineers in the public sector were pushed to participate in political marches and other party activities interfering in the work schedule of some Baathists staff. Locally manufactured materials were not as good as imported goods and politics had influenced the selection of the reconstruction companies, and not merely their performance, as in selecting Russian companies. Staff on training missions abroad were accompanied by intelligence

officers, yet recalled as 'polite and minding their own business' by one senior woman engineer (Intrv. 27, personal communication, March 20, 2020).

These factors eventually led to insecurity and rise in criminality towards the end of the 1990s, making field movement more difficult. Confrontation was not an easy option, and engineers remained silent in the face of non-technical difficulties in pre-2003 authoritarian Iraq. Engineers presented their role in relation to the state and its institutions rather than the ruling Baath regime. The collective efforts to overcome war destruction and sanctions gave them a chance to utilize their expertise, which was duly acknowledged and recognized by the state. Iraqi electrical engineers saw themselves as 'soldiers' serving their country and the public good. The war urgency had transcended the dichotomy between bureaucracy and technocracy offered by Hanafi's narrative. For Hanafi, engineers in authoritarian Syria acted either as bureaucrats supporting the state for being 'state-dependent wage workers', or as technocrats working in favour of the populations and their professional interest as a group (Hanafi, 1997:463). In the case of Iraqi electrical engineers, the negotiation between the state, society and professional group suggested by Hanafi collapsed into 'a common undisputable purpose' of restoring electricity during wartime for the public good. The three categories overlapped, and the separating-lines blurred.

The point that the state and the one-party authoritarian regime were seeking legitimacy through their achievements was not discussed. For the engineers, the immediacy of dealing with the reconstruction efforts in dire economic straits and the fear of regime retaliation rendered questioning government's policy that had led to war and sanctions, a futile exercise. Silence was the only option for those who stayed, as opposed to others that could afford to leave their home for unknown lands. Some of

those who were pushed to leave became part of what was known post-2003 as 'the Iraqi exiles' *(Iraqiu al Kharej)*. In the words of one senior respondent, Iraqi exiles had formed a new social stratum within the Iraqi society post-2003 and introduced 'the rule of families' (Intrv.18, personal communication, March 05, 2020). Those exiles had formed the base of Iraq's new political elite (Al-Ali, 2014), and were ushered into power through the political quota system propagated by the US occupation. Al-Ali gives a vivid insight into the traits and origin of Iraq's new political elite (Al-Ali, 2014:39). Notably, he singles their deeply rooted mistrust in the 'other' and fear from the ex-regime during years in exile, (Al-Ali, 2014:58). Hence, they operated within a limited circle of trust. As they came to occupy privileged positions within the post-2003 system, they diffused a whole network of nepotism and favouritism in various state institutions and apparatus. As if ominously, the high-rank Baathists and the rule of one family had been replaced by 'the exiles, and the rule of families'.

The early years post-2003 were described by most of the respondents in both electricity and oil sectors, private and public, as *the years of insecurity and state's absence*. Amid rampant insecurity, occupation and transitional government, the power grid was an easy target and a medium for political rivalry, and criminal looting and vandalization. Although materials and financial allocations started to flow in, actual work on the ground remained difficult and slow for years. Foreign expertise was re-introduced under different banners than development, more explicitly driven by political and financial interests amid lack of oversight. One senior electrical engineer recalled her first meeting with the US army corps of engineers as an uncomfortable encounter (Intrv.27, personal communication, March 20, 2020). They were not sure if those military engineers are to be approached 'as friends or foes' (Intrv.27, personal

communication, March 20, 2020), or perhaps emissaries of global capitalism as they were in peacetime Saudi Arabia (Khalili, 2018). Sooner than later, their political and political-economic trajectories were clear as 'they kept asking for statistics' and 'focused on the reconstruction and technical development of the Oil sector's power grid' while neglecting to fix the power grid in the densely populated Basra city centre (Intrv.27, personal communication, March 20, 2020). This role was noted scornfully by several respondents across-sectors. One civil engineer working in the private sector recalled the early post-invasion presence of US companies run by foreigners with limited educational background fixated on getting the oil-sector up and running. Those US corporations were prioritizing their compatriot companies and acquaintances in the reconstruction contracts (Intrv.4, personal communication, March 01, 2020). This is another blatant example where foreign corporations were favoured over local expertise that would have prioritized public good, i.e. restoring electrical power to the population, over electricity for resources extraction and exports.

Beyond oil, when it came to electricity, the quality of the job was questionable. To avoid the security risk, well-known foreign companies were sub-contracting other companies and Iraqi contractors with limited resources. Many projects remained on papers only. In other areas in the country, insecurity remained the main obstacle, as one engineer from Baghdad explained having to stay for months on site away from his family to avoid southern Baghdad's deadly roads (Intrv.30, personal communication, April 02, 2020). With time passing, new interest groups were forming in different localities out of the vacuum created by the collapse of the security state. In Basra, engineers contended, and at a time simply tried to evade, the rising power of tribes and militias. One petroleum engineer explained that he would not say that he is 'the

engineer' in charge to avoid kidnapping or worse (Intrv.16, personal communication, March 04, 2020). Some newly formed tribal gatherings around certain oil fields were stealing equipment and monopolizing transport activities. Militias were openly interfering in the tendering process in favour of specific companies that said to 'support the resistance' (Intrv.16, personal communication, March 04, 2020). He recalled having an exceptional General Director who had both 'technical and political' skills. He managed to contain both the tribes and militias. Tribes were given unskilled position and extra working hours while militias' tendering offers were evaded in favour of public companies, saying that they were privileged by 'state policy' (Intrv.16, personal communication, March 04, 2020).

Having to negotiate with tribes and militias, and commissioning sub-contracts were signaled out by several respondents across-sectors. In what follows, I use 'interest groups' frequently in the discussion about the post-2003 order in Basra and Iraq as a whole. Those interest groups encompass various people and individuals driven by self-interest gains with the ability to evade the state and its laws. Mainly, those were the tribes, and para-militias many with connections to certain political parties. But also, individual players such as business owners who might connect to the previous groups for practical reasons and not due to blood ties or ideological or religious standings. Post-2003, these various interest groups came to control key economic portals in the south, such as the port and areas around the oilfields, and they operated with impunity. The Multinational Companies (MNCs), the International Financial Institutions (IFIs) and political parties performing political quota were also part of the interest groups, but I often refer to them with clear designations. They obviously had their own interests and ran their own negotiations and compromises with other interest groups to facilitate their

work, as mentioned earlier. In many occasions, the lines separating those various actors were blurred. The state gained a relative strength after 2009's crackdown on some of the militias, while arguably several militia factions made it to ministerial positions later.

In the meantime, Iraq's energy sector was developing strangely with a focus on oil exports. As Iraq's oil production was steadily increasing, its electricity and gas sectors were sliding to dependency, as much as its agriculture and industry. For instance, before 2003 Basra electricity directorate assigned critical power lines to industries such as the fertilizers factory, petrochemical factory, papers factory, electrical appliances manufacturing and steel and the cement factories, in addition to the oil sector and the port. Post-2003, beside the oil industry, only the paper factory was on a critical power line, the rest of the sectors were either excluded or closed, indicating a shift in the state's priorities[26](Intrv.10, personal communication, March 03, 2020). Following the launching of the multinational oil companies licensing rounds in 2009, Iraq hit a historical oil production growth of 110% between 2010 and 2017, (Ahmed Mehdi, 2018:1). During the same period, electricity imports increase by 116%, as Iraq started buying electricity, and later gas, from Turkey and Iran[27]. Iraq decreased its reliance on

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[26] Data collected during field work. Also, the IEA data shows general decrease in industrial power consumption between 1990-2017, https://www.iea.org/countries/Iraq.

[27] https://www.iea.org/countries/Iraq, descriptive data synthesized from the IEA existing datasets that indicate an increase in electricity imports from 468 ktoe in 2010 to 1014 ktoe in 2017. Also, both countries have developed their hydroelectrical power generation over the last decade through dam-building that had influenced Iraq's water shares in the Tigris and Euphrates rivers basin. For instance, between 2001-2004, Iran completed three dams with hydroelectrical power capacity on Karkheh and Karoun rivers, both rivers contribute more than 40% of Shatt al Arab water flows, the main water source in Basra (UN-ESCWA and BGR & United Nations, 2013:156). One respondent mentioned that Iraq is also importing agriculture products from the upstream countries, while this was prohibited pre-2003, in order not to encourage their crops and water use over Iraq's shares and agricultural sector (Intrv.30, personal communication,

local oil sources in electricity production by more than 70% between 2003 and 2015[28].

Although this could be a sign of recovering an opportunity cost by focusing on oil exports, it left Iraq more vulnerable to a volatile geopolitical environment. In the meantime, electricity losses went up from an average of 6.8% in the early 2000s, to 50% in 2014[29]. As the pre-2003 state withered, a new particular type of fragmented government emerged. A government that was fixated on protecting the MNCs oil exports, and the rents that local elites extract from these exports. Such government was not meant at servicing local populations, but at placating and silencing them with minimum expenditures. It is under such circumstance that local experts were sidelined, as I discuss in the following section.

C. The neutralization of expertise and energy imports

One prominent issue that dominated the respondents' working environment, across-sectors, was the neutralization of expertise. Neutralization of expertise existed in two main demeanours, the under-utilization of the respondents' experience and specialization, and key officials lacking relevant expertise. When the respondents were asked about the main obstacles limiting engineers' role or the slow development of Iraq's electricity sector post-2003, almost all of them brought these issues to the fore. Experts were posted in positions that were irrelevant neither to their practical experience

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April 02, 2020). http://www.fao.org/aquastat/en/countries-and-basins/country-profiles/country/IRN

[28] Descriptive statistics and timelines were synthesized from the IEA data that shows Iraq reliance on oil source for electricity production 88% (of total production) in 2003 as opposite to 25% in 2015. The average reliance on oil sources of total electricity production between 1980s-2004 was 80%.

[29] https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS?locations=IQ

nor to their educational and technical backgrounds, rendering their expertise idle, or rather nullified. For instance, none of the five petroleum engineers interviewed (among nine engineers working in the oil sector) felt that their expertise is fully utilized. An engineer working in one of the biggest MNCs, felt that she was doing a geologist work and another in the public sector ended up writing office memos. The selection of key positions is determined by the political quota *(almuhasasa)*. Under the post-2003 system, and a fragmented government, politics was given more prominence over competence. As a result, a mixture of politics and incompetence had weakened the quality and continuity of the experts' work along the years. Priority is given to both political and financial short-term gains. Many respondents complained about lack of follow-up and guidance, lack of discipline and respect of hierarchy as well as lack of oversight and accountability. Rather than discrediting 'politics' in general, the word politics was used by respondents to encompass certain terms and conditions, dynamics and interests, as it will be clarified in the following paragraphs.

A couple of examples could serve well in showing the relation between politics and the neutralization of experts. In one example, a senior electrical engineer in middle management position questioned the quality of technical support he could get from his counterparts at the ministry in Baghdad; where the director-general of Planning and Studies held a BA in history, and the director-general of the Economic Unit held a BA in business administration (Intrv.20, personal communication, March 05, 2020). In a second example, an electrical engineer with years of experience in the renewable energy file, who had worked before in the Automation and Artificial Intelligence Studies and Research department on the manufacturing of demining robots with Russian and German cooperation, was posted in a small forgotten maintenance unit in the South. He

had been reposted several times, but the last transfer was following his participation in

protests in 2013. His efforts pushing the solar energy file went in vain, supposedly due

to high cost. He indicated that quick short-term solutions were favoured over

sustainable ones (Intrv.07, personal communication, March 02, 2020). Currently, the

focal point for solar energy between the General Electricity Distribution Company in

the South and the Ministry of Electricity is a young 'civil engineer', tasked with

spreading 'awareness' on the importance of activating solar energy within the public

sector. This syndrome of 'miss-posting', and hence loss of expertise as it assigned in

irrelevant positions, was indicated by several examples across-sectors. It signaled a

systematic approach by various interest groups to significantly undermine state

institutions. The influence of political quota on postings reached the level of heads of

divisions in technical departments in recent years and hence influenced the decision-

making process on various levels. Respondents had different opinions on whether

decisions were reflecting individual interests or that of certain political parties or states.

Few respondents saw that decisions made were reflecting personal interests due to lack

of oversight and follow-up. For instance, in some situations, the tendering process

would favour who pays more commissions regardless of their political affiliations and

the quality of their bid (Intrv.20, personal communication, March 05, 2020).

Nevertheless, several respondents believed that some states had invested millions in

certain political parties and would expect a payback through governmental contracts

(Intrv.25, personal communication, March 14, 2020).

   Another symptom of the political quota, and as such a limit to the experts' role,

was high staff turnover in key positions, and the ensuing lack of long-term planning and

focus on the short-term quick fix. Simply, key staff were changing as soon as a new

party take power or the unending negotiations between parliamentary powers produce different setup. In the electricity sector, lots of efforts were put into immediate solving of the grid's jamming and the deployment of mobile electricity substations that could be easily and quickly installed. Some respondents saw short-term political gains behind these quick-fix solutions, such as 'containing the street' following 2018's protests. Others indicated that it is a sign of a lack of competence and comprehensive planning that are needed to keep up with the city growth. Again, this was because of the political neutralization of relevant expertise. For instance, the unequal development of the oil-centred economy and job market rendered Basra an attraction to jobseekers from other governorates and the countryside. Inward migration presented an additional load on the governorate's weak services that was not considered in any planning (Intrv.17, personal communication, March 04, 2020; Intrv.25, personal communication, March 14, 2020). A couple of respondents in middle-management posts, who had attempted to depoliticize the electricity issue, held a different position on long vs short term planning. They emphasized the difficulty in finding land and coordinating with other public directorates, and lack of financial allocations as deterrents to longer-term planning, e.g. building fixed power stations. For them, increase in electricity consumption, whether from population growth or increase in the purchasing power coupled with overflowing the market with affordable imported commodities, was another reason for the gap between power produced and needed. That is why the state could not keep up with the increasing power demand, and not because of the absence of long-term planning, according to the depoliticizing respondents. One of them explained

that Basra's loads had increased by almost six folds between the years 2000 and 2015[30],
(Intrv.10, personal communication, March 03, 2020). However, power losses have
reached almost 70% (World Bank, 2019:10) in the recent years, only 14% technical
losses and the rest was unaccounted-for consumed electricity due to squatting, not only
for domestic use but for informal 'small factories or business' (Intrv.10, personal
communication, March 03, 2020). Importantly, some informal businesses were
supported by people in power in Baghdad, according to a couple of respondents. Also,
as the agriculture sector declined over the years with minimum state support and land-
appropriation for oil production, and reliance on cheaper imported crops, many
agriculture lands were 'urbanized', adding further formal and informal connections to
the grid.

      Several respondents raised the lack of financial resources and the increase in
consumption as the main hindrance to Iraq's electricity sector development.
Technically, a senior electrical engineer indicated that Iraq had to sell its oil as a
primary source for the country revenues and needed to buy gas for not have the quality
necessary for power generation. However, respondents who were more open to
implicate politics in the discussion, i.e. the majority, signaled other issues, particularly
when asked why Iraq, the third worldwide crude oil exporter, is buying electricity and
gas. Whether it was the increase in consumption, lack of financial allocations,
incompetence and absence of long-term planning or insecurity and contracting
incompetent companies, politics was implicated in the reasons behind Iraq's electricity
and gas dependency. 'The decision is not in the hands of experts' (Intrv. 8, personal

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[30] Basra's power load that indicates total electrical consumption steadily
increased from 504 MW in 2000 to 3000 MW in 2015, currently load stand around 4000
MW. Data collected during field work.

communication, March 02, 2020). A couple of respondents explained that sustainable solutions meant putting an end to a lucrative market of import and ensuing maintenance of quick-fix materials. Beyond the benefit of local interest groups, some senior engineers saw that there is a global policy for the energy sector that hinders sustainable solutions to maintain lucrative circulation running (Intrv. 18, personal communication, March 05, 2020; Intrv.25, personal communication, March 14, 2020). The will to boost regional and global energy markets is evident in the ministry of electricity's discourse as I will discuss in the following sections. Zooming into Iraq, the ministry of electricity is essential in the quota-based negotiation among the political parties and finding sustainable solutions to the electricity file will take the ministry off the negotiation table. For one senior respondent, the reason why Iraq is buying electricity was twofold, internal due to 'corruption' and external, as some states viewed Iraq a trade competitor and its economic development a threat to the open-market policy (Intrv.18, personal communication, March 05, 2020). Here 'corruption' rather refers to some form of 'rent-extraction'. Certain people in power favoured ongoing contracting where they can make money than energy sufficiency with no commercial circulation. 'Iraq has water and oil, why we buy electricity?', another senior engineer contended, (Intrv.25, personal communication, March 14, 2020).

To conclude this section, it is important to stress that the state figured pivotally in the engineers' narrative, both in the public and private sectors. The state represented the laws and oversight on the application of those laws and hence acted either as an enabler or disabler for the utilization of the engineering expertise. Post-2003, the newly formed interest groups, were mainly disablers of any expertise. This comes in contrast with the experts' role represented in the literature, as implicated in the state endeavour

of organizing the population in order to control and extract revenue, for instance, through taxation (Scott, 1998). Or their role in Ferguson's 'instrument-effect', whereby experts as part of the anti-politics machine, depoliticize poverty and facilitate the expansion of state's bureaucracy (Ferguson,1994:256); here the state was fading away and with it the role of the experts. Everything is highly politicized and the state, and various interest groups, had no interest in extending bureaucratic power nor in societal control. To the contrary, it is evident from the various examples shared, that there is a systemic approach to destroy state apparatuses. Apart from the majority of technically and politically neutralized Iraqi experts, almost all other actors gave prominence to chaos over organization and control. In order to shine further lights on the role of experts and its limits in such environment, it is worth examining separately the interaction between Iraqi engineers, foreign experts and politics as well as the subsequent waste of public money.

D. Politics, foreign experts and Iraqi engineers

In 2009, with the relative improvement in the security situation, Iraq initiated the first licencing round for the Multinational Oil Companies and endorsed the National Investment Regulation. Since then, foreign companies, beyond the US military corps and their privileged multinational contracting companies[31], have swept over Iraq, particularly, the oil-rich south. Iraqi and foreign experts, across-sectors, were interacting

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[31] A senior oil engineer indicated that Russian Hydromash water injections projects in Northern Rumaila and Burjiseh were attacked by the Americans in 2003 just for the US military corps to reconstruct it afterwards with US companies such as Parsons, Haliburton, KBR and al Kharafi Kuwaiti company and another Indian Mier. The Americans would have invested $5 billion in the project (Intrv.8, personal communication, March 02, 2020).

either within the framework agreements with the MNCs developing the oil and electricity sectors or through foreign loans granted by the World Bank and various governments, such as the Japanese and the German loans.

When it came to the MNCs, the role of Iraqi petroleum engineers was limited by the contractual conditions negotiated during the licensing rounds. Respondents indicated that the negotiations were led by politicians, with disregard to the local technical experts' opinion, leading to a certain situation unfavourable to Iraq. Priority was given to maximizing oil production on the Iraqi side and to 'short-term profit maximization' for the foreign companies. The role of the Iraqi experts in some sites was reduced to 'observers', and even if they reported specific issues to officials in charge, their reports would be ignored. 'The state does not care *(al dawla ma mihtama)*', one respondent commented (Intrv. 21, personal communication, March 06, 2020). For instance, Iraqi experts (e.g. engineers and geologists) will object certain drilling technique that could shorten the oil well life, but it will not be taken into consideration (Intrv.26, personal communication, March 14, 2020). Expert engineers met acknowledged the technological advancement, worldwide experience and organizational skills – mainly, planning and statistics-, of the foreign companies, but it came at a high cost. The contracts granted a generous margin to the MNCs' spending, that some costs were doubled, if not more. A joint oversight board was formed to review contracts above the US $ 20 million only and hence, most of the expenses were split into below the US $ 20 million instalments to avoid oversight (Intrv.21, personal communication, March 06, 2020). Another respondent commented that foreign engineers were experimenting new costly technique as they were not the ones paying (Intrv.24, personal communication, March 13, 2020). Iraqi engineers tried to rectify the situation, and a

review committee was formed a few years ago to decrease the expenditures; however, nothing changed in essence. Such issues often get blocked by unqualified management compromised by political quota. What is more, some of the experienced engineers who were more critical on the MNC'S work than others were released following the activation of the new pension law; a law that was propagated to the previous Iraqi government by the IFIs, (Nabel Jasim, 2020b, 14:00). Unlike what is noted in the literature of certain alliances between expertise and politics in serving state rule, it seems here that foreign experts and various interest groups were each serving their own interest and had favoured the neutralization of the Iraqi experts' role.

One respondent gave a different example that shows the domination of politics and the ensuing waste of public money. Major oil and gas companies, namely, British Petroleum-BP, Dutch-British Shell, American ExxonMobil, Russian Lukoil and Italian Eni were to fund the development of a seawater pipeline megaproject, under the condition that ExxonMobil leads the work. The project was for building oil exports pipelines and water injection facility. It supposed to provided water for the extraction of oil, as oil companies were competing on the already meagre water shares of Basra. For political reasons related to Exxonmible work in the Kurdish region in northern Iraq, the Iraqi PM, al Malaki at that time, excluded the US energy tycoon, and the project remained on hold[32]. More than US $ 200 million for initial designs of the pipelines, stations and environmental impact paid to three different foreign companies, were spent in vain, as each new company requested its own assessment (Intrv.8, personal communication, March 02, 2020). The respondent commented that 'the decision is political, no planning, no consideration to the economic dimension or time factor,

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[32] https://www.offshore-technology.com/comment/cssp-project-2019/

politicians would not listen to experts', (Intrv.8, personal communication, March 02, 2020). The waste of public money aside, the decision on this file was indeed political[33].

Similarly, geopolitics and particularly the US-Iran rivalry over the Iraqi energy file had influenced the contracting of the American GE and its competition with the German Siemens, regardless of the position of the Iraq engineers[34]. Senior electrical engineers favoured Siemens over GE for the quality of their work and long experience in Iraq electricity sector. GE work, on the other hand, is done through subcontracting. One respondent explained that GE was contracted by the Italian Eni to develop electric power in one of the oil fields, just for GE to sub-contract another Iraqi company to perform the work (Intrv.28, personal communication, March 20, 2020). Each circle (Eni, GE and then the Iraqi company) implies further financial spending on the Iraqi government that could have directly contracted Iraqi companies and saved public money. However, such subcontracting was allowed because of the conditions stipulated in the licensing round, negotiated by politicians. Some of them might be experts, but not necessarily with relevant expertise and still driven by political gains[35]. The post-2003 political class, dominated by the Iraqi exiles, established laws and agreements to ensure

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[33] The U.S. Secretary of State Pompeo, was pushing for Exxon's involvement in August 2019 but the tense US-Iran relation had influenced the talks, also there're cheaper bids than Exxon's. To note that the socio-economic impact of such megaproject, such as land-dispossession and further resources extractivism without plans to employment returns in productive investments is beyond the scope of this research. https://www.reuters.com/article/us-iraq-oil-exclusive/exclusive-iraq-close-to-pipeline-deal-with-bp-and-eni-rather-than-exxon-sources-idUSKCN1UY25B

[34] https://financialtribune.com/articles/energy/94554/us-intimidates-iraq-to-kill-siemens-deal-in-favor-of-ge

[35] The ex-Minister of Oil that had led the negotiation was a chemical engineer by training and had brokered the deal despite opposition from local experts, see (Mehdi, 2018:4).

active financial and commercial circulations within the global energy market. Just like in the electricity file, commercial circulations were necessary to secure resource extraction and rent maximization for the political elite, regardless of the public good.

If Iraqi engineers were sidelined by political quota, contractual conditions and short-term profit-making of the MNCs, foreign loans, particularly the World Bank (WB) loans, represented another inhibiting factor. The WB recent involvement in Iraq dated back to 2003 through the management of the Iraq Trust Funds designated for the reconstruction of Iraq post-2003's US invasion and the ensuing loans lending as of 2005[36]. The respondents had different stands towards the world bank loans ranged from frustrations and questioning intention to high expectation towards the WB's 'excellent policymaking expertise'. Senior engineers were more critical on WB interventions; one respondent recalled long futile negotiations with American and Canadians WB representatives. She eventually had openly shared with them her frustration at keep sharing statistics while nothing was implemented on the ground. Since then, they never returned to Basra in person (Intrv.27, personal communication, March 20, 2020). She also had retired, though. Another senior engineer recalled that while Iraqi experts had managed with limited resources to fix two of al Hartha Power plants units within three years from its destruction by the Americans in 1991, a world bank loan of US $124 million granted in 2005 had failed to fix even one unit (Intrv. 20, personal communication, March 05, 2020). The Russian company running the project withdrew, and the project was terminated in 2015. The world bank report on al Hartha indicated 'insecurity' as the main reason for the unsatisfactory performance of the project (World

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[36]https://www.worldbank.org/en/webarchives/archive?url=httpzzxxweb.worldbank.org/archive/website01034A/WEB/0__CO-45.HTM

Bank, 2016). The unit was eventually fixed with a loan from the Japanese International

Cooperation Agency (JICA) in 2017 (Intrv. 20, personal communication, March 05,

2020). Ironically, a couple of respondents viewed the Japanese and the German loans

positively, as the only way to commit people in power to implement and complete

projects beyond various groups interest in stalling projects to keep to the financial tap

running. However, the last unit of al Hartha power plant is to be reconstructed with

another JICA loan of US 230 $ million, according to the respondent, although the cost

for a new unit is US $ 200 million, which means a waste of US $ 30 million, but 'there

is no proper financial management', there is rather 'financial looting', he exclaimed

(Intrv. 20, personal communication, March 05, 2020).

A new WB loan of US $ 200 million was granted to Iraq in 2019 for the

reconstruction and enhancement of electricity services in the south, (World Bank,

2019). The WB report praised the Ministry of Electricity (MoE) efforts, stipulated in

Law no. (53)/2017 in the corporatization of the electricity directorates that should

eventually lead to their privatization, hence 'saving the Iraqi government fiscal losses

generated from energy subsides' (World Bank, 2019:9). It also indicated the importance

of improving essential services to support the legitimacy of the central government

(World Bank, 2019:8). This improvement included more quick-fix temporary solutions

in the form of mobile substations installations which was objected by several

respondents as a costly delay for more permanent solutions. The loan is focused on

South Electricity Transmission and Distribution Companies, as 'the main directorates in

contact with the public and revenue collection', one respondent indicated (Intrv. 10,

personal communication, March 03, 2020). Two of the respondents were the liaison

engineers with the WB, in each of the mentioned directorates. Both held a middle

management position and did not have the history and critical view of the more senior engineers shared above. One of the liaison engineers spoke highly about the expertise of the world bank, that intended to turn the electricity company from a 'losing company to one with returns' given that more than 50% losses are due to illegal squatting on the grid and non-collected revenue (Intrv. 10, personal communication, March 03, 2020). The other liaison engineer expected the WB project to be a chance to gain experience and have 'international oversight', implicitly indicating lack of trust with internal oversight (Intrv.19, personal communication, March 05, 2020). Both engineers mentioned language difficulty as all the WB documents were written in English with no copies in Arabic. One of the liaison engineers saw 'independency and integrity' in the WB's intervention that is needed as Iraq does not have the expertise for 'drawing practical infrastructural policies' (Intrv.19, personal communication, March 05, 2020). Ironically, an ex-WB staff, a young American-educated Arab who had worked on Iraq electricity file a couple of years ago, recalled being uncomfortable discussing policies with Iraqi experts that she had first read about in English only the night before (Personal communication, January 2020). Although none of the liaison officers questioned the value of the WB neoliberal policies amid other structural factors nor the quality of the WB expertise, yet all Iraqi engineers met in relation to foreign loans admitted the burden of the interest and conditions attached to these loans, including the two liaison officers. A couple of respondents objected the WB neoliberal restructuring policies, including increasing tariff and the majority of the respondents, admitted that Iraq would not have needed foreign loans if it had proper financial management and oversight. The WB inefficient interventions had so far undermined the public sector performance just to call for privatization and tariff reforms as the only solutions. It conveniently ignored

the fact that Iraqis used to pay tariff until early months post-2003. The WB top-notch expertise also did not question the reasons behind squatting or who are the squatters.

If the US army corps of engineers had established the grammar for global capitalist order in peacetime Saudi Arabia (Khalil, 2018), in Iraq the base for a liberal capitalist market was initiated with the diffusion of the political quota system advanced by the US-led CPA[37] post-2003. And it took shape through a series of laws produced by this system, importantly the Investment Regulation Law no. two/2009, and later with other laws, such as the electricity law no. 53/2017. However, what most of the respondents voiced was that the stipulated laws, old and new, were not applied or only partially and selectively applied, because of the weak state and incompetent people in power, installed by the quota system. The application of the laws is manipulated for individual and groups interests through money extortion or at times, compromising honest, competent experts, as one senior engineer indicated (Intrv. 25, personal communication, March 14, 2020). The electricity tariff is not new in Iraq, and revenue collection existed pre-2003, one respondent even argued that Basra's electricity directorate used to have returns. Post-2003, the government tried to privatize revenue collection, but the project failed[38]. The increase in losses due to poor revenue collection

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[37] The Coalition Provisional Authority, led by Paul Bremer, https://govinfo.library.unt.edu/cpa-iraq/bremerbio.html

[38] Several respondents mentioned the failure of the privatization of revenue collection where a couple of companies were hired for that purpose, but people didn't pay. Also, an MP, who is an electrical engineer and ex-Director General in Basra's electricity directorates was rally against privatization of revenue collection. Ironically, in this video, posted on his tweeter account in December 2018, he indicates lack of relevant specialization within the 'oil and energy parliamentary committee'. He asks for forming temporary investigative committee with relevant specialization for follow-up on the privatization file.
https://twitter.com/lEisixrb71JmhMA/status/1070743964356104194

and network jamming, because of informal connections to the grid, is partially due to the unequal development post-2009 that rendered Basra an attraction to the workforce from everywhere in the country, many of them disadvantaged unskilled labourers, who live in informal housing illegally connected to the grid. And as mentioned in previous sections, according to several respondents, some 'unclear' squatting was exempted by people in power in Baghdad.

Scott views state intervention in society as 'necessarily crude' when it lacks reliable means to organize and control its population, the society is then 'opaque to the state and shielded from its interventions', (Scott, 1997:77). In Iraq, it was not the lack of means that led to crude state intervention but rather a systematic approach to undermine state institutions and suppress most of the local experts' role for political-economic gains that renders state interventions often crude. Regardless of the intentions of the two liaison engineers, the WB recent intervention mimicked technopolitical endeavours mentioned in the literature. For instance, Li stresses that 'improvement intervention' often exclude structural political-economic dynamics underlying the situation they plan to improve (Li,2007:18). Contrary to Li's position, the WB recent intervention in Iraq was an inherently political-economic endeavour with an overarching goal disseminating neoliberal structural reform. In agreement with Li though, such intervention conveniently excluded socio-economic and socio-political factors behind the increase in non-technical losses of informal connections. Implementation will remain in question, though, gauging from the feasibility of increasing or improving revenue collection and the quality of execution and follow-up in other WB related projects. Both liaison officers tried to evade implicating politics in the discussion but eventually admitted that it is a 'state policy' to engage with the WB. Ultimately, the entanglement between a

weak state, a political system that serves various interest groups, and the global capitalist machine represented by various multinational companies and the International Financial Institutions (IFIs) had rendered the role of Iraqi experts idle. In what follows, I will review the political stands taken by the various respondents and how they viewed the role of experts in society.

E. The political role of engineers

A majority of the respondents factored politics in the discussion as having an important effect on the running of their work, and on the development of the energy sector in general. In the few cases where politics was intentionally or unintentionally avoided, words such as 'corruption', 'war', 'no credibility', 'mismanagement of resources' and 'people with no relevant specialization' were frequently used. Among 22 respondents that had factor politics openly, only six did not support or were neutral towards the recent protests' movement. Some of them were critical on the shifting demands, which for them indicated opposite political trajectories, and on the economic effects of the protests and protesters' life-losses for minimum gains. Others were disappointed with some of the protests' outcomes, such as the new pension law, and thought that the protests would hit a wall eventually. Most of the respondents indicated their support to the social mobilization of 2018 and 2019, and nine respondents took part in the protests. Few of them have participated in the engineers' protests in Baghdad late 2019, that had triggered October massive social mobilization (Intrv.29, personal communication, March 20, 2020). Several have participated in Basra's 2018 and 2019 protests and up to February 2020 before the COVID-19 lockdown[39]. Their participation

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[39] https://twitter.com/hasanenalhijaj/status/1225790099838963713?s=21

was either with the engineering syndicate[40], or the engineering association or as individuals. None of them openly identified with clearly drawn political views, except a couple on opposite sides of the spectrum: One senior engineer leaning towards the left with a strong anti-imperial stand, blaming the US invasion of dismantling the army, eliminating local expertise and assigning key positions to incompetent people based on their political affiliations; another activist with American education displayed some neoliberal stand calling for Basra's federal economic separation. With a corporate mindset and an MBA, for her 'the governorate should be run like a company'. Between the two political stands, the rest of the respondents saw an issue with the system as a whole which, among many other setbacks, had eliminated the benefits of having experts where they are needed. Several respondents were involved either in the organization or active participation in public talks and workshops discussing and raising intellectual awareness on socio-political and political-economic topics and matters in Basra and beyond.

To flesh out the potential influence of political participation on their work, respondents were asked how Basra's 2018 protests could have affected the improvement of the electricity situation in the governorate. Several respondents, including one who was part of 'the crisis's cell' formed by the local authorities in

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[40] The engineering syndicate in Basra has pioneered the formation of the National Assemblage for Syndicates and Unions in Basra, following the 2018's water crisis, in order to have a unified position on critical matters that have faced the governorate. An important organizational step, however, majority of the respondents have severed connection with the syndicate for years, for not having an effective role. The syndicate have been organizing some technical workshops and political talks and marches but blamed by many engineers for not reaching out and trying to support them. Although common grievance such as unemployment and poor services have brought engineers together, fragmentation, lack of trust and lack of organization remained an issue.

response to the public health crisis in 2018[41], indicated that the social mobilization had unlocked both financial and power allocation to the technical and political actors in the governorate. One of the key general directors was given ministerial power, and financial allocations were released to the governorate's local authorities. However, other respondents underplayed the effects of the protests. For them, projects were being implemented for years, and electricity had significantly improved a couple of years earlier. Notably, when the PM al Abadi had excluded Basra from the countrywide programmed power-cut, for being a 'hot region' and the country's oil hub. Some respondents had different standing on the long-term influence of the protests and whom would it serve. One senior respondent indicated that electricity was used to mobilize people against rival parties, where eventually, additional power was given to certain persons (Intrv.18, personal communication, March 05, 2020). Most of the solutions adopted were a short-term quick fix to contain the public disturbance and bought the current political system a few months. Those short-term solutions, although provided immediate relief, had actually delayed more economical long-term ones such as fixed stations (Intrv.18, personal communication, March 05, 2020). Several respondents indicated that the measures taken were temporary, including the power given to some key officials (Intrv.17, personal communication, March 04, 2020).

The different opinions on the long-term positive influence of the protests were reflected as well in the engineers' position towards the decentralization of power that

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[41] https://www.thenational.ae/world/mena/basra-health-crisis-17-000-admitted-to-hospitals-for-water-poisoning-1.764991.
https://www.washingtonpost.com/world/widespread-unrest-erupts-in-southern-iraq-amid-acute-shortages-of-water-electricity/2018/07/14/b9077b90-86c2-11e8-9e06-4db52ac42e05_story.html
https://www.vox.com/world/2018/9/7/17831526/iraq-protests-basra-burning-government-buildings-iran-consulate-water

had accompanied the process. Several of the respondents saw the positive side of the decentralization, albeit stressing the importance of oversight and the qualities of the persons in charge. Local directorates know better the situation on the ground, and decentralization cuts circles of bureaucracy and potential corruption and speed up implementation. Others indicated that centralization would ensure coherency both legally and in terms of financial allocations and that decentralization could lead to unequal development countrywide and eventually inward migration to affluent governorates overburdening their infrastructure (Intrv.9, personal communication, March 02, 2020; Intrv.25, personal communication, March 14, 2020). For many of the electrical engineers, technically, centralization provides stability to the countrywide electricity grid; a view that could be extrapolated to the political system amid fragmentation of various interest groups competing over lucrative national resources. A couple of young engineers saw the issue beyond centralization or decentralization and that both technical and political solutions are needed. The problem was that neither of the systems was working; the central authority had given them the flawed contracts with the MNCs, while decentralization would increase the power of militia and nepotism. Eventually, engineers were frustrated with the temporality of the short-lived positive outcome post-2018 protests. Experts felt confined and limited by the political system in place that gave power to political quota and the rule of rivalry militia. For them, the issue is not centralization and decentralization, but the laws and policies and their application.

The various political stands of the engineers appear marginal next to the huge political machine of the post-2003 system. In this regard, it is worth examining the position undertaken, and policies advanced higher up. In several televised interviews

with the Minister of Electricity between January and May 2020, the minister, a British educated political economist, emphasized the importance of reviewing tariff and improving revenue collection (Alsumaria, 2020, 08:55). He also was pushing for a 'regional market utility' by diversifying and extending energy imports beyond Iran to Turkey and the Gulf Countries (Alhurra Iraq, 2019, 40:59; Alsumaria, 2020, 47:00; AUISofficial, 2020, 34:36). The minister, who was in office since October 2018, and energy consultant to the Iraqi parliament since 2008, openly pushed for open-market neoliberal policies. However, these very same policies were advocated, established and pushed since 2003 just to produce impotent oil-centred economic development that had deepened social and economic inequalities and increased unemployment[42]. The minister indicated establishing a three years' plan to develop the country's gas industry and the intension to sign contracts for the development of solar energy production. However, according to him, those plans were halted following the October 2019 protests. Eventually, long-term planning and sustainable solutions towards Iraq energy independency often been delayed for a reason or another. At the same time, the minister insisted on the necessity of 'depoliticizing' the electricity file. For him, depoliticization is achieved by signing contracts with both GE and Siemens and that these companies are not American and German but rather 'international', which in his opinion implies 'apolitical' (Alsumaria, 2020, 26:18). He conveniently disregarded the political-economic agenda of the MNCs pushed by the imperial block and post-2003's political system.

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[42] According to the ILO estimates, between 2009 and 2019, unemployment in has increased more than 50%, settling at 12.8, double the worldwide unemployment rate of 5.394. https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS?locations=IQ https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS

The depoliticisation is viewed in a particular manner that supports specific policies, still in line with 'indisputable' open market policy. The minister openly supports the protesters in their struggle against the political system, as he was pressured by certain MPs to influence official appointments and construction contracts (Alhurra Iraq, 2019, 06:15). This peculiar situation, whereby the appointed government side with the people against the parliament that was supposedly elected by the very same people was not limited to the minister of electricity. In February 2020, the temporary appointed PM, an engineer himself, had also urged the protesters to support his government formation from political parties' interference[43]. Neoliberal policies aside, the minister, who identified himself as politically independent from Iraqi parties, yet with liberal views, was pressured by the political quota as much as the engineers I met. Albeit he insisted that he gave prominence to professionals over political quota, this is not the case on the ground.

As mentioned earlier, several positions within the ministry and in various directorates were assigned based on the political quota rather than competence. When asked about not having the relevant expertise for his position, as he was no electrical engineer nor have relevant technical experience, the minister indicated that 'specialization is good but not necessary, what is needed are the skills in policy and strategy making and leadership' (Alsumaria, 2020, 28:30); thus, he redefined the 'techno' (i.e. skills) and maintained power (i.e. cracy) of the technocracy that has

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[43] https://www.youtube.com/watch?v=Mu9wFHVD0U8, https://www.bbc.com/news/world-middle-east-51342053, https://www.aljazeera.com/news/2020/02/iraq-president-appoints-mohammed-allawi-pm-state-tv-200201150554113.html.

produced nothing but a fatal mixture of kakistocracy[44] and kleptocracy[45] in various localities. This comes in line with the difficulties expressed by the experts on the ground as they felt their expertise being neutralized while their administrative and management skills still behind those of the 'foreigners', or if that matter, 'western-educated people', such as the minister of electricity. Here I am not arguing for nor against the efficiency of a technocratic government, this not the point of the research. What is evident from lengthy discussions with field engineers is that stronger state and oversight, where technical positions were occupied based on expertise and competence led to better implementation rate, for the public good. And such a system was not introduced to the people as 'technocrat government'. In parallel, since 2014 the political class represented the Iraqi government as 'technocratic'; however, essential expertise was sidelined, and key assignments were guided by the political quota, which had massively influenced infrastructure development.

But how did the engineers themselves view their role in society? Engineers I met saw themselves at the margin of the state power struggle, and the majority felt neutralized between political quota, open-market policies and rivalling interest groups. Many respondents thought that engineers had lost their status not only under the influence of politics but also because of the proliferation of weak technical education disseminated by mushrooming poor-quality private universities. For some respondents,

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[44] Kakistocracy, 'a government that is ruled by the least suitable, able, or experienced people in a state or country', https://dictionary.cambridge.org/dictionary/english/kakistocracy?topic=systems-of-government

[45] Kleptocracy, 'a society whose leaders make themselves rich and powerful by stealing from the rest of the people', https://dictionary.cambridge.org/dictionary/english/kleptocracy?topic=systems-of-government

the significant number of engineers graduating every year, with specializations that are irrelevant to the needs, qualitatively and quantitively, had also influenced the engineers' status. Engineers saw themselves as decision-makers when there was a comprehensive development plan put by the state. One senior engineer thought that despite the efficiency, professionalism, and scientific knowledge of the Iraqi engineers, there were marginalized by the consecutive regimes through wars, economic sanction and eventually the political quota (Intrv.4, personal communication, March 01, 2020). Another senior engineer confirmed this opinion that engineer's status was shaken by the sanctions, political quota but also by the 'rise of the material' that implicated engineers in corruption. For her, currently, the problem is the lack of laws and oversight that used to exist before, even during the time of the economic sanctions (Intrv.27, personal communication, March 20, 2020). Another respondent believed that engineers' role was propagated pre-2003 through the Military Industrialization Corps *(al Tasnia' al askari)*. Towards the end of the 1990s with the rise of private and evening studies the quality of education and scientific knowledge deteriorated, hence, affecting the engineering status (Intrv.30, personal communication, April 02, 2020). However, senior respondents acknowledged the significant role of the engineers during 1980s and the reconstruction period early 1990s whether propagated by the regime or even implicated in resorting its legitimacy after years of absurd wars; eventually, their quality expertise was put into work for the public good.

Currently, they believe that engineers have no status because of state policy. One engineer indicated that 'most of the people in power now hold grudges towards experts, as they lack the knowledge themselves and because they want to destroy Iraq competencies', (Intrv.4, personal communication, March 01, 2020). Several other

respondents were of a similar opinion that competencies are being targeted

systematically to undermine state institutions. Younger engineers saw their role as very

limited to non-existent. One respondent indicated that whether she works or not, it

makes no difference, 'she did nothing to the country and has no status', (Intrv.22,

personal communication, March 07, 2020). For instance, engineers across-sectors

shared their frustration that the multinational companies did nothing to the communities

where they work, despite the negative environmental impact of their activities. The

externalities, or what engineers ironically call 'social part of the contracts' were reduced

to empty promises. Almost all engineers indicated that even the roads leading to the

oilfields were not rehabilitated; construction work was done only inside the oilfields.

Indeed, the majority of the foreign managers, driven by self-interest and isolated in the

oilfields' confinement, would not have noticed nor prioritized services for the local

population. Almost all respondents saw the limited reconstruction work done in Basra

city itself[46] as 'random, chaotic and miss-calculated'. Across-sectors, respondents felt

frustrated and alienated from their work, one engineer indicated that 'persons in charge

would not listen to experts' (Intrv.8, personal communication, March 02, 2020) and

another concluded that 'there is no place for creativity, I do routine tasks and leave by

the end of the working day', (Intrv.25, personal communication, March 14, 2020).

Eventually, whether it is the political quota, and power struggle among various interest

groups in the public sector or maximum short-term profit in the private sector, the

majority of the field engineers were marginalized, and their expertise was nullified,

perhaps marking the death of techno-politics.

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[46] One suspension bridge, and several small random bridges inside the city to
manage traffic.

CHAPTER IV

THE TYRANNY OF THE MARKET: EXPERTS, POLITICS AND OPEN MARKET

Iraq, the world's third-largest oil exporter, had been struggling with its electricity provision for years, with significant reliance on regional power imports since 2010. Iraqis had been taking to the street almost every summer demanding better electricity provision. An increase of 116% in power imports was recorded between 2010 and 2017[47], rendering the country vulnerable to a turbulent geopolitical environment. In Basra, public protests in 2018 have triggered a considerable improvement in electricity. Some electrical engineers had participated in these protests and the ones organized in 2019, claiming that public pressure had unlocked technical advancement that was otherwise halted by politics. Getting back to the main research question, amid highly politicized energy file, floundered development in the electricity sector and public protests, what is the socio-political role of engineers? The results indicate that despite engineers' palpable political awareness of the complex political environment where they operate, their socio-political role was vastly limited by the ramification of the political quota system and open market policies. Contrary to most of the literature where colonization or the state appropriate experts' knowledge to ascertain power; Basra's engineers' expertise was neutralized. Under the hegemony of political quota disguised in ethno-sectarianism, various interest groups, and global capital formations, both the state institutions and engineers' role were systematically undermined.

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[47] https://www.iea.org/countries/Iraq

So far, techno-political interventions, such as the World Bank loans to boost the electricity sector with neoliberal policies, including tariff and revenue collections' reforms, had limited effect and weak implementation rate. While engineers used to occupy decision-making positions and their expertise were utilized amid difficult times of war and economic sanctions, this had changed amid lack of countrywide planning, lack of oversight and mismanagement of resources. These factors, coupled with an increase in consumption partially due to inward migration triggered by unequal economic development post-2003, kept electricity sector development behind actual needs. While results indicate significant electricity improvement in Basra following 2018's protests, some indications reveal the temporality of such improvement and its role in containing challenges to the status quo. Most of the engineers met support the protests movements, and some had participated in various protests in Basra and Baghdad and claimed to trigger October massive social movement. However, lack of organization, skepticism towards current social mobilization and fear of reprisal from various interest groups, had limited engineers' active political participation. In what follows, I will delve into the results' meaning and interpretation and its contribution to the available knowledge through a socio-historical analysis.

A. Social (de)-engineering

A first reading of the engineers' feedback and across-sectors statements such as 'lack of planning, lack of oversight, miscalculation and chaos', indicate an absence of systemic intervention to inflict social transformation or assert power, at the level discussed by Scott or Li for instance. However, a historicized in-depth analysis entices a reconsideration of the development of disabling and enabling environment where the

engineers operate. For electrical engineers, the 1980s up to the early 1990s were a period of construction, development, solidarity and creativity. The state had a clear trajectory towards industrialization, agriculture development and diversification of economy where engineers were implicated as of their graduation. Working in a service ministry, electrical engineers utilized their expertise and creativity, amid national development, war and reconstruction efforts. The notion of working for the public good appeared indisputable. Senior petroleum engineers indicated, however, the ruling party's domination over critical positions and a bureaucratic hindrance to unfetter development of the oil sector, in comparison to the all-out development of the oil sector post-2003. Functioning state institutions and strict application of laws, albeit excluding the ruling family, was evident. However, the fallouts of years of war, economic sanctions and a corrupt MoU had limited the engineers' role, particularly towards the end of 1990s and early 2000s. And if the state enabled engineers' technical role at that period, it disabled their political role. Beyond anti-imperial political mobilization organized by the Baath party, engineers were politically silenced by the authoritarian regime. Albeit not directly implicating engineers, *localized* malicious social engineering to ascertain power existed pre-2003, such as Kirkuk's demographic changes in the north, the expulsion of the Feyli Kurds in the middle, and the drying of the marshes in the south. Those social engineering schemes meant to eliminate dissents in a violent fashion similar to the ones highlighted by Scott, and also Li. The history and magnitude of those atrocities are beyond the scope of this research.

Post-2003, a countrywide social engineering schema, set off a long-term social, political, and economic chain reaction. Examining this schema unravels the roots of concurrent socio-political limitations to the role of experts, as mentioned by the

respondents. Years of war and pernicious economic sanctions had drained Iraqi society, economically and morally. Iraqi society was made to 'a levelled terrain' amenable to social re-structuring, (Scott, 1998:5). Early 2003, two steps undertook by the US army, and the US Country Provisional Authorities (CPA) had ensured what Scott's calls a 'clean slate' to build upon a new 'alien' social order (ibid:194, also cited by (Li, 2007:277)). The US army, that was according to the International Law responsible for protecting state institutions, as the only organized forces on the ground, had allowed the ransacking and destruction of almost all public institutions (Al-Ali, 2014:61). Many officials, including engineers, tried to protect their offices and technical sites; still, archives and official documents were lost or burned (ibid:62). In May 2003, the CPA issued two orders, sealing off the levelling of the pre-2003 Iraqi state. Order one formed the 'de-Baathification' commission, described as the worse example for transactional justices and led to the unjust loss of a significant part of the country's expertise (ibid,69). Order No.2 of the CPA dissolved several state institutions, including the Iraqi Army and Ministry of Defense. Some of the institutions dissolved were formed years before the Baath party took power, such as the 'Board of Supreme Audit' established in 1927 (ibid:72)[48]. With the leveling of the old state, 'the population' was ready to be re-arranged and made legible for new social re-structuring (Scott,1998:2).

Under banners of 'freedom' and 'inclusion', the Iraqis collective existence was to be re-arranged around 'communities' that were to be autonomized and responsibilized (Rose,2008:174 also cited by Li, 2007:234). As Rose argues,

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[48] The CPA rectified its decision in Sept 2003, but still other structural decision taken had undermined the country's oversight efforts including the formation of conflicting new oversights bodies, the Integrity Commission and the Inspectors General, (Al-Ali,2014).

'community' was viewed through the western experience as a solution to the 'perplexities of the autonomous self' (Rose,2008:173). It was under these conditions that the US-led CPA and the Iraqi exiles unleashed a new political process based on a peculiar synthetic 'ethno-sectarian' quota, *(al muhasasa)*, (Haddad, 2020:276). This new community-based arrangement though was not meant only to acknowledge 'identity differences' and avoid sliding into individualism. Both the new constitution and the elections law drawn at the same period produced (and ensured the reproduction) of alliances and powers with inherent limits and possibilities. In ironical resemblance to Li's account on early twenty-first century Indonesian's participatory development programs, Iraq's new socio-political arrangement was more concerned with 'resources management' than political participation, (Li,2007:276). These arrangements were a 'cheap' and an 'efficient' approach to manage irreducible difference not in the population but among a troubled political class of Iraqi exiles that was enabled by the occupation. Such arrangements were in view of maximizing oil-extraction without dealing with any of the problems that have been created by the sanctions, the wars, resources-extraction, exploitation and impoverishment.

Foucault argues that when the population is figured as a medium for the manipulation of 'modern mechanisms of power', it transforms economic analysis to that of 'political-economy' analysis (Foucault, 1978:109). Iraq's national economy was refocused on the political-economic development of the oil sector and open market policies. Since 2009, laws such as the National investment Regulation no.2/2009 and the Electricity Law no.53/2017 put the base for neo(liberal) economic order and ensured Iraq's plunging into the global capital formation. The market was not merely to be 'freed', but it was 'incumbent on the government to conduct a policy towards society

such that a market can exist and function', in what Gordon terms, 'advanced liberal'

order, (Gordon, 1991:41, as cited by Rose, 2008:137; ibid:139). Under the banner of

'freedom' and 'inclusion', the new social order produced an amalgam of exclusion,

unequal economic development amid an environment of impunity and crippled

neoliberal economic policies. The alien 'ethno-sectarian quota', mutated with time to a

fragile 'political quota' and eventually to a sort of 'the militantly powerful' or 'the

higher bidder' quota, as indicated by some respondents[49]. This arrangement had

alienated and remained alien to many Iraqis who identified as Iraqis rather than

belonging to a certain made-up 'community'. Some of them had led several protests

since 2003, including the October 2019 political mobilization raising the Iraqi flag. The

fallouts of this social engineering schema had directly impeded the socio-political role

of engineers (and experts) across-sectors, in what follows I will elaborate on how and

why this happened.

B. How and why expertise was nullified

The results show the neutralization of local expertise, against most of the

literature grappling with an intentional and unintentional alliance between political-

economic powers and experts. Respondents across-sectors mentioned that their

knowledge was underutilized; that they were 'miss-posted'[50], and that people with no

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[49] To clarify, political quota in the sense of distributing 'lucrative' government
positions among various parties that might belong to the same alien ethno-sectarian
group designed in 2003. While, the military powerful militia, and whoever pays more,
had a leverage on the negotiation over some government positions.

[50] This is indeed political, yet again while in the literature experts are
'instrumentalized' by politics for politics and political-economic gains, here they are
'excluded' by politics for politics and political-economic gains.

relevant experience occupied key positions. This phenomenon is explainable if looked at within the context of post-2003's new order. The fallouts of the post-2003 social engineering persisted in three main aspects that limited experts' role. First, at the base, amid an environment of impunity, technical and socio-political encounters within and outside the confinement of the workplace were dominated by the ramifications of the political quota and various interest groups (e.g. militias, tribes, individuals…etc.). Appointments in key positions across sectors were predominated by the political quota, nepotism and foreigners' favouritism to maintain control over policies. Also, thousands of young engineers with irrelevant specialization and weak educational base were recruited with a limited chance for a fair technical knowledge building. Institutions were overstaffed, and experienced staff were either hoarding knowledge or going through early retirement. Prospect of technical development was limited, as one young engineer put it, 'the public sector is a graveyard for expertise', (Intrv.33, personal communication, April 04). Second, a push from higher up was advancing neoliberal policies such as the World Bank's intervention propagating restructuring reforms regardless of local experts' opinion. Attempts to challenge these policies were slimming down as experienced staff were leaving. Third, Iraq's diverse, productive economy that used to encourage local manufacturing and agriculture shifted to oil-centered extractive economy. The extractive nature of the economy, coupled with the domination of the MNCs over skilled activities such as 'well design' had significantly limited the role of Iraqi engineers. The correlation between the extractive nature of the peripheral economies, particularly the oil-centered, and less reliance on the workforce and limited 'indecent' employment creation is extensively discussed by Mitchell and Kadri (Kadri, 2014:184; Mitchell, 2009:407).

Foucault's *State, Security and Population* provides a useful frame to interrogate the relationship between social change and neutralization of experts in post-2003 Iraq. His argument is relevant from two standpoints: the modern security techniques acting on the population and the importance of 'circulations'. Unlike disciplinary measures exerted on individuals, security apparatus inflicts social change by intervening in certain issues on the population level, and then 'let things happen', (Foucault, 1978:37&68). So, if 'the law prohibits and discipline prescribes', the function of security is to respond to reality in a way that 'cancels out the reality to which it responds – nullifies it, or limits, checks, or regulates it', (ibid:69). Hence, if social engineering in disciplinary interventionist authoritarian Iraq pre-2003 was localized, it was exerted over the population as a whole in post-2003 as it modified social fabric and installed new laws, and then 'let things happen'. Foucault argues that 'the fundamental question is economics, and the economic relationship between the cost of repression and that of delinquency' (ibid:23). Here, tolerating 'delinquency' in the form of various interest groups operating in impunity seemed more convenient and cheaper for global capital formation. Delinquency prevailed at a high cost for experts and society, as state power was limited, and expertise was nullified in favour of circulation. The second important point raised by Foucault is that of circulation. He stresses the indispensability of ensuring circulation and its intensity, including commercial circulation for the political effectiveness of 'the sovereign and the opening of towns' (ibid:27&29, here Foucault reference Jean-Claude Perrot). And indeed, prominence was given to ensuring free intense trade and financial circulation in post-2003 Iraq. The nature of the state post-2003 was that of rent-maximization by ensuring the proliferation of internal and external contracts, predominantly in the energy sector.

Interestingly, commercial circulation is anything but new for an ancient portal city as Basra, but what was new is the appropriation of resources and financial circulation, where production almost reduced to turning money into money (Kadri, 2014:16). Such circulation involves not only local rent-seekers but also, the multinational corporations (MNCs) and the international financial institutions (IFIs).

Price et al. captures well the entanglement between the IFIs and the MNCs when tackling privatization of the National Health Service (NHS) in the EU in the late 1990s, mainly the UK, and its impact on health inequalities[51]. The World Trade Organization (WTO) was propagating privatization while the MNCs were racing to capture the gross domestic products the governments spend on public services, (Price, Pollock, & Shaoul, 1999:1892). Such a system appeared even more costly with time, as private sector borrowing came at a higher cost than that of governments (Pollock, 1995:1). Importantly, when prominence was given to profit rather than quality services, solidarity and public accountability and equity in services provision were dismantled (Pollock, 1995). Twenty years later, the IFIs, notably the World Bank, are propagating privatization for Iraq electricity sector under the banner of decreasing government spending. Interestingly, Price at al. single that governments were aggressively backing privatization projects in the interest of their business corporations. This mimics the massive push for the involvement of the MNCs and WB reforms by Iraq's higher-up neo-technocrats, some of them had worked for years as consultants to various MNCs and global liberal political-economic forums. Importantly, Price argues that advancing

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[51] The outcome of the NHS privatization policy is felt bluntly in the level of the UK's response to COVID-19 pandemic. In May 2020, the UK ranked the third worldwide in the deaths per one million of the population. https://www.statista.com/statistics/1104709/coronavirus-deaths-worldwide-per-million-inhabitants/.

open market policies is possible only if 'domestic opposition to privatization is kept in check' (Price et al., 1999, 1892). In Iraq, this is happening through the assimilation of the technical base's organic intellectuals and the neutralization of crucial expertise.

C. The organic-intellectuals and the market's anti-politics machine

Gramsci argues for a certain relationship between the organic intellectuals, the traditional 'intellectuals of the letters', the dominant social group and superstructures such as society and the state. The more elaborated the organic intellectuals of a social group that's developing towards dominations, the better chance such a group has in assimilating its traditional intellectuals (Gramsci, Hoare, & Nowell-Smith, 1972:10). Intellectuals then act as the dominant group's 'deputies, in exercising 'social hegemony' and 'political government' through the society and the state (ibid:12). Contrary to that, in Iraq, some intellectuals of letters rather than of technical base, in the form of anti-politics technocrats were working towards assimilating the developing organic intellectuals of the technical base. At the same time, they were acting as global market's 'deputies', propagating both social and political hegemony favourable to the neoliberal economic order, e.g. the WB restructuring programs. Moreover, the global market apparatus such as the MNCs were forming a reciprocal relation with local interest groups, including militias to facilitate their work, in line with 'the intellectuals of the letters' neoliberal discourse. I have discussed the systematic weakening of state institutions and neutralization of engineers' role in favour of neoliberal economic order and multiple interest groups. The 'neutralized majority' of the respondents, who still hold a clear political position but with limited political participation sit between two poles. The 'organic intellectuals' among the engineers who were regularly participating

in the political demonstration and the 'anti-politics machine' of the higher up, pushing for neoliberal policies. Those two groups have a particular dialectic relationship with the various interest groups, including the militias, the IFIs, tribes and the MNCs. It is worth examining those groups, their interactions and potential socioeconomic influence as a wrap-up for this chapter.

In the *Prison Notebooks*, Gramsci argues that every social group with an 'essential function' in 'the economic production' develops organically a stratum of intellectuals, which give it an awareness of its role in the economic, social and political fields, (ibid:5). Engineers activists and protesters, some of them have led the unification of various professional syndicates in one union in Basra, could be a kernel for the experts' organic intellectuals. Whether in the main squares or the syndicate, they were trying to organize, intellectually, politically and technically. They did not hold hegemonic political stands but were all pushing for critical political participation and socio-political change. However, their role remained temporal and limited under pressure from the various interest groups. This pressure was exerted in two forms, physical violence that had taken the lives and injured hundreds of protesters, including in Basra in 2018 and 2019. Second, the neutralized majority signaled the potential manipulation of the protests by the various parties to exert pressure on each other. For instance, the effects of 2018's Basra protests temporarily shifted power to certain officials, initially assigned by the political quota. The improvements in Basra's electricity in 2019 were in-large part due to unsustainable solutions and quick fix, meant to contain public anger. Still, the agency of the protesters should not be denied (Haddad, 2018), neither the legitimacy of their demands. Eventually, the assumed containment was short-lived, and the government resigned end of 2019 under mounting public

pressure. On the other end of the spectrum rested the anti-politics machine, the intellectuals of the neoliberal economy in a Gramscian sense, with a more leveraged relationship with the different interest groups.

Gramsci indicates how the 'capital entrepreneur' will have on her side 'the specialist in political economy, organizers of new cultures and new legal system', (ibid:5). Since 2003, the Iraqi exiles, many of them western-educated with liberal economic views had been laying the ground and pushing for open-market policies. This was evident in the laws set for facilitating foreign investments and the MNCs licensing rounds, both for oil and electricity recently. When one talks about experts, it is worth clarifying, experts in what and where? The expertise of an experienced electrical engineer is neutralized when put in a position of a civil engineer. The knowledge of a petroleum engineer is unutilized when assigned the task of a geologist. And a political scientist, who sideline technical expertise opposing her views, will advance politics in a technical enterprise, such as the ministry of electricity, rendering it a techno-political endeavour, even if this was against its technical components. Those miss-assigned technocrats of Iraq, I would call the 'neo-technocrats' ended up advancing a particular political agenda, regardless of their well or ill-intentions. In the period from January to early May 2020, the minister of electricity appeared in several televised interviews where he consistently tried to depoliticize the electricity file (Alsumaria, 2020; Alsharqiya Tube, 2020b; AUISofficial, 2020). In an evident resemblance to Ferguson's anti-politics machine (Ferguson, 1994:267&270), the minister was insistently reposing political questions on Iraq's energy reliance, floundered long-term projects, and the inward migration due to unequal economic development, into technical terms of population growth, losses and lack of gas refineries. He reduced the problem of

electricity to the 'commercial side' and the need to create a regional energy market and diversify Iraq's imports beyond Iran. Although he acknowledged the technical, security, and financial complexity, he insisted the main problem is the low tariff and poor revenue collection (AUISofficial, 2020)[52]. Instead of the expansion of the state's power suggested by Ferguson's instrument-effects (Ferguson,1994:267), what accompanied de-politicization in Iraq's electricity file is the expansion of the open market and geopolitical influences. And for that purpose, a stratum of 'neo-technocrats' of a specific type of 'intellectuals' was formed and nurtured from within the Iraqi exiles.

The relationship between the neo-technocrats of letters and the technical organic intellectuals is that of utilitarian assimilation, or at least attempting that. The minister positioned himself close to the protesters commending the pressure they exert on MPs, who were objecting his neoliberal discourse (Alhuraa Iraq, 2019). But he also stated that the protests had impeded the implementation of some projects and endangered others. This had pressured the government to absorb some of the protesters' anger with temporary public assignments, according to the minister (Alsharqiya Tube, 2020b). Beyond co-optation, ideological assimilation in the Gramscian sense existed. Some protesters, including engineers, hold views leaning towards neoliberalism

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[52] This webinar organized by the Regional Institute for International Studies at the AUIS, is a living example of how the Iraq energy file is approached and through which experts. The commercial side of the issue was accentuated. The minister was supposed to represent the 'technical side', with no relevant technical expertise and clear position supporting tariff reforms, above all. The guest that is supposed to add socio-political dose to the discussion (Chatham house associate and ex-UNDP) draw an unsuccessful comparison between Iraq and Lebanon electricity with problematic disregard to the different histories and structural socioeconomic dynamics (history of Iraq electricity, the relatively recent influence of political quota, class dynamics, oil, geopolitical energy file…etc). She ended up stressing the need for 'decentralization' and 'eliminating state monopoly', (a monopoly that historically in Iraq worked much better than market and geopolitical monopoly). https://youtu.be/Iakqvx0vqy0.

(Intrv.28, personal communication, March 20, 2020; Intrv.29, personal communication, March 20, 2020[53]). In parallel, the anti-political discourse of the higher-up neo-technocrats uncritically embraced the WB and IMF proposal for restructuring reforms, such as revising tariff or the retirement age. It ignored the global failures of the WB restructuring reforms applied since the 1990s, that had overlooked socio-political and economic factors underlying the contexts where such interventions were applied (Foster, Witte, Banerjee, & Moreno, 2017). More importantly, the minister's discourse did not tackle what exactly is 'the non-technical losses of electricity'? Who were the squatters? Several respondents hinted that some of the squatting was supported by 'powerful parties' in Baghdad. Hence, not all the illegal connections to the grid were underprivileged people. In the meantime, the minister and his neo-technocrat consultants spoke about 'rewriting the social contract' and obliging the people to pay the tariff (AUISofficial, 2020). And that 'those who cannot pay should receive limited social security', with a strange disregard to the fact that Iraqis were actually paying the tariff until the early months post-2003. And hence, perhaps it is not an issue of 'changing mentality' and 'modifying the social contract' but rather restoring and developing functioning laws and regulations. It is another instance where charity-like solutions were proposed as a remedy to structural socio-economic inequalities.

Public sector institutions were systematically undermined, historical facts ignored, structural political-economic factors excluded, and neoliberal reforms offered as the only solution. The minister's de-politicization was hardly a 'project than a secured achievement' (Adalet, 2018:15; Li,2007:10), as he measured progress of the ministry

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[53] Also, many social media accounts that support the protests and some claim reporting from squares advance neoliberal political-economic views.

with the approval of international institutions rather than the people[54]. Unsurprisingly, the techno-politics machine of the Ministry of Electricity's higher up had a privileged relationship with the IFIs and the MNCs. For instance, the WB commended the efforts of the ministry to move towards privatization of the public directorates. Also, the rush to sign contracts with the various MNCs for the sake of development of the electricity and gas sectors, and hopefully solar power, was another push toward the global market. Meanwhile, the MNCs managed their own negotiations and compromises with the militias and tribes in a reciprocal relationship. This took the form of allowing monopoly of transport services around oilfields and projects sites and offering unskilled positions in return for security and keeping protests at bay. This relationship had added insult to the injury as it confirmed the absence of the state and fair application of laws. Meanwhile, the MNCs continue to pressure and sideline local experts, pushing for maximum-short-term profit to comply with their obligations to the global financial system. In parallel, and geopolitically, Iraq's transactions with Iran including on the energy file, continue to be one of the only venting outlets for Iran under strict US economic sanctions. Within this vicious circulation, and under the tyranny of the market, the state, the experts and public good remained the weakest part of the equation.

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[54]In this tweet the minister refers to the quality of the achievements during his tenure, 'as acknowledged by International institutions', he adds, https://twitter.com/al_khatteeb/status/1255608985547419650?s=21

CHAPTER V

CONCLUSION

The research shows that key expertise in Iraq's most critical economic sector is being marginalized by politics to ensure maximum rent-seeking and resources extraction. Contrary to most of the literature where colonization or the state appropriate experts' knowledge to ascertain power; Basra's engineers' expertise was neutralized. A comparative- historical analysis, building on the respondents' narrative and manipulation of existing datasets, confirms that the Iraqi state and society were systematically undermined by wars and economic sanctions since the 1990s[55]. This had left the country a 'clean-slate' for a post-2003 nationwide social engineering to ensure rent-maximization and resources extraction while undermining public good and public accountability. New socio-political and socio-economic order was established, and new laws were issued to ensure rent-extraction through unfettered contracting proliferation, mainly in the energy sector. Consequently, local expertise is being technically and politically neutralized by various interest groups to eliminate potential socio-political challenges to the new system. Public institutions are systematically undermined, historical facts ignored, structural political-economic factors excluded, and neoliberal reforms are offered as the only solution. The prominence given to commercial circulation served not only the new political elite and local rent-seekers but also global capital formations represented by the MNCs and IFIs.

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[55] After a very brief recovery in 1989-1990 following eight years depleting war with Iran where Iraq was backed by the US.

If the question, as Foucault puts it, is the economic relationship between the cost of repression and that of delinquency (Foucault, 1994:23), then post-2003 delinquency, in the form of various interest groups operating with impunity, prevailed at a high cost for society. In many occasions, the marginalization of crucial local experts came at the expense of long-term solutions to the electricity file and against the public good. The engineers' *neutralized majority* fall between two unequal poles of power: The organic intellectuals of the technical base and the neo-technocratic anti-politics machine of the higher-up, that pushes for neoliberal market policies. The developing stratum of the technical organic intellectuals had a minimal margin for manoeuvre amid state's absence and unfair application of laws. Lastly, it is almost indisputable that Basra's 2018 protests had led to some sort of improvement in electricity. Albeit, this was mainly to contain public anger in the oil-rich governorate. This improvement factored around short-term quick-fixed - i.e. more contracts- and exclusion of Basra from countrywide programmed power-cut, have deepened the inequitable access to essential services on country level[56]. In what follows, I will revisit the arguments connecting engineers' neutralization with economic circulation, the position of the neo-technocrats and the entanglement of local and international financial circulations. Then I conclude with a reflection on the research methods and limits and how the debate on the death of techno-politics could be taken further, amid a global pandemic.

An in-depth exploration of the respondents' feedback in chapter two, backed by the comparative historical analysis that I employee in chapter three, shows a certain

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[56] At the time of writing, in summer 2020, activists have unleashed social media campaign under the hashtag, 'Iraq is without electricity', as Baghdad and many other governorates were getting as low as 5 hours electricity a day, while Basra centre enjoyed almost 22 hrs/day.

pattern connecting local engineers' marginalization with the post-2003 economic

workings. In 2009, the Iraqi government approved the first licensing round for foreign

investments in the oil sector and issued the National Investment Regulation no.2 to

facilitate the MNCs' work. Since then, Iraq steadily increased its oil exports and merited

the position of the world's third-largest oil exporter. In parallel, between 2010 and 2017,

Iraq's electricity imports increased by 116%[57], and the country started importing natural

gas also. Iraq decreased its reliance on oil for electricity generation from an average of

80% between the 1980s and 2004, to 25% in 2015[58]. Although this might be seen as

recovering an opportunity cost by capitalizing on oil exports to increase government

revenue, it left the country dependent on a volatile geopolitical environment. This

strategy had not paid well, knowing that oil returns were not invested in developing the

country's productive economic sectors (Al-Ali, 2014:162&180). What was undoubtedly

evident and captured by the engineers I have met, is the prominence given to unabated

energy imports and exports and the ensuing proliferation of contracts, including those

for transport and logistic. Several of the engineers I have met, and I would like to stress

again that they were the backbone of Iraq's vital economic sector, observed that their

expertise along with the long-term sustainable approach to the energy file was hindered

and sidelined to ensure commercial and financial circulation. For that, Foucault's

discussion on the security technique acting on the population and the importance of

circulation proved very helpful in reading post-2003 social engineering that had

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[57] The figure was synthesized from the International Energy Agency's existing
datasets, https://www.iea.org/countries/Iraq

[58] Descriptive statistics and timelines were synthesized from the IEA data that
shows Iraq reliance on oil source for electricity production 88% (of total production) in
2003 as opposite to 25% in 2015. The average reliance on oil sources of total electricity
production between 1980s-2004 was 80%.

facilitated the subsequent economic workings, as I discuss in chapter three. And here again, I am not saying that all local experts were technically and politically neutralized, but surely a significant part of them. Simply, because unlike what we see in the literature on techno-politics, in Iraq, one cannot observe major development projects involving both foreign and local engineers outside the confinement of the oilfields, where limited foreign expertise is employed to ensure maximum profit and resource extraction. Engineers working in the energy sector in Basra were sidelined by local rent-seekers and the MNCs to ensure rent-extraction and profit maximization. While in the literature, at times, foreign expertise replaced local knowledge to ascertain imperial or authoritarian power, here the issue goes beyond limited replacement of local experts by foreign ones, to marginalizing the overall need for crucial technical expertise to ensure financial circulation.

Meanwhile, the neo-technocratic stratum, many of them aroused from within the Iraqi exiles and enjoyed western liberal education, figured closer to power. Regardless of their 'well-intentions' to deliver 'improvement', and their attempts to de-politicize technical files such as electricity, they have been unreservedly advancing certain politics. If one is to situate herself in their de-politicizing position, then their discourse reflects two overarching problematic stances: first, a blanket undermining, demonizing and diminishing of Iraqi state's working pre-2003[59]. Hence, they propagate

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[59] Beyond the energy file, in this interview with the new Iraq Minister of Water Resources, this time a veteran official from within the ministry, May 18,2020. The presenter mentions the position of ex-Iraqi PM (AbdulMahdi), a typical neo-technocrat, that Turkey has the right to exploit Iraq water resources as Iraq is 'wasting the water to the sea'. The new minister explains Iraq agriculture and water projects opposing the ex-PM position and concludes that: 'The Turks have different discourse when talking to the media or politicians, than that with experts, they wouldn't use similar argument with me, still 90% of the success of the negotiation is politics'.(at 13:05) https://www.youtube.com/watch?v=am68FXycTss

a loss of significant experts' knowledge and a base for comparison and improvement. Second, their discourse reflects blind support and entrenched believe in the urgent need for applying neoliberal and open market policies, regardless of the specificities and applicability on the ground. Importantly, how could the electricity file be tackled in separation from the influence of the political quota on official postings, militias hegemony and absence of fair applications of laws? How would increasing tariff and revenue collection from the people who already used to pay will solve the issue? The technical reduction of Iraq's energy dependency to the increase in consumption and over-population is a misleading simplification. As unrealistic as it could be to exclude geopolitics or the massive push to open market policies and taking the neo-technocrats at their words; the restructuring reforms seems crippled without unpacking the 70% power losses. Iraq had gone up from 6% electricity losses in 2004[60] to 70% in 2019 (Intrv.10, personal communication, March 03, 2020; World Bank, 2019:10). If only 14%‑ 20% are technical losses (Ibid:10), then what are the non-technical losses and what are the socio-economic and socio-political reasons behind them? Answering these questions was beyond the scope of the research. However, an 'improvement' that overlooks these factors is futile. The 'misdiagnosis' of issues that excludes local knowledge points to specific outcomes and solutions, not necessarily in favour of the public good, but rather in support of rent and resources extraction and global neoliberal policies. The research results proved that the neutralization of expertise and assimilations of its organic intellectuals serve well this purpose. Politics prevails, while the genuine 'will to improve' sit awkwardly in the corner under the widely propagated banner of 'mismanagement'.

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[60] https://data.worldbank.org/indicator/EG.ELC.LOSS.ZS?locations=IQ

It is worth revisiting, one last time, the issue of the assimilation of the technical organic intellectuals by the neo-technocrats and their political-economic discourse. Among other issues, such discourse overlooks the entanglement between the local and international financial circulation. It is noticed vastly over social media and from some of the respondents' feedback that many activists are calling for globalization and open economic policies as 'the only alternative' to nationalism, and radical Islamism. A historicized critical assessment of the result of such economic policies is almost non-existent. The more senior engineers with a critical view on global economic dynamics and the energy sector were neutralized, marginalized and sent to early retirement[61], following the IFIs' recommendations. They were purposely replaced with less competent staff, with irrelevant specialization and limited prospect for technical development. The expertise of other engineers, even the very few that were closer to power were also being sidelined to ensure unfettered financial and commercial circulations. While some expertise was replaced by foreign experts, isolated in the confinement of the oilfields, in some instance minimum to no expertise was employed to implement quick fixes that will require further working and contracting. The ground was set to allow systematic weakening of public institutions through miss-posting, concealed unemployment, and undermining of local expertise. The weakening of state institutions, lack of empowered experts, and fair applications of laws had allowed massive waste of public money, a significant chunk of it went to the MNCs facilitated by flawed contractual terms. Many of these MNCs are driven by maximum short-term

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[61] In the words of one of the respondents: 'The new pension law is one of *their* weapons against the people. Political parties, the three presidencies and 'families of martyrs' are excluded from it. It's a corrupt law. Experts were retired and replaced by staff that don't want to work, 90% of them are not engineers' (Intrv.25, personal communication, March 14, 2020).

profit-making to meet their financial commitments to the international financial system. With the reliance on oil-centred rentier economy post-2003, the failure of the Iraqi system to respond to recurrent global economic crises was inevitable. The post-COVID 19 historical decrease in oil prices left Iraq with austerity measures, international borrowing and privatization as the *only* solutions. In a nutshell, the very same global financial system that was sucking monetary value through various channels including indirectly through a waste of public money is now offering to lend money under its own terms, spearheaded by privatization and structural reforms. Such conditions shall secure further resources extraction while deepening social inequalities.

Talking directly to local engineers gave an insight into the interaction between local experts, the various interest groups and the neo-technocratic anti-politics machine of the higher up. The outcome shows that technical expertise is not 'either accomplice or instrument' in the hand of power but could also be forcefully neutralized against the public good. Adopting a quantitatively led mixed-method was instrumental in examining the discourse of the neo-technocrats and the broader political-economic dynamics encapsulating the respondents' feedback. This was achieved through extensive revision of the literature, analysis of recent public interviews with high-rank officials and synthesizing descriptive statistics and timelines from existing datasets from the World Bank and the International Energy Agency. Such approach unravelled that some experts with specific knowledge relevant to the neoliberal economic order figure closer to power and are trying to assimilate the opposition represented by the developing organic intellectuals of the technical base. Hence, one could say that the research marks the diminishing of techno-politics. Not in the sense that we cannot observe the presence of an anti-politics machine that renders politically contentious

issues technical. This will not happen as far as there are IFIs and an active humanitarian sector. However, it marks the diminishing and even the death of techno-politics the way we know it in the literature from the post-independence era. In Iraq, local and foreign experts are not working together on mega construction projects and modernist schemas, that intentionally or unintentional advance techno-political endeavours. Instead, on a local level, key experts are nullified by various interest groups to ensure rent and resources extraction. Even political projects advanced by the higher-up anti-politics machine, such as the world bank's neoliberal electricity reforms, in many occasions, stumble if it challenges the financial and commercial circulations of other interest groups. In a broader sense, under the tyranny of the open market, techno-politics is not diffused through construction projects, roads and bridges, but through the techno-politics of knowledge. The 'techno-political' discourse of the neo-technocrats – who do not necessarily possess relevant technical expertise- builds certain epistemological bridges and demolish others for political reasons. It is a techno-political knowledge that is produced and nurtured as an annexe to a crippled global economic order that is prone to cyclic environmental and financial crises.

The backbone of the research is 33 interviews, among them only seven with private-sector engineers. However, there is an evident across-sectors uniformity particularly on issues related to the re-engineering of the state and neutralization of experts. Such consistency coming from an in-depth-exploration of the respondents' feedback despite their diverse background, substantiated by the comparative-historical analysis, including synthesizing descriptive statistics from existing datasets, confirms the validity of the results. Still, in certain instances, I extrapolate the respondents' experience to experts in general. This is because I consider that engineers working in

Iraq's energy sector – who are the backbone expertise in the country's key economic drive- give a valuable insight into the state's position from experts in general. On the other hand, a closer look at the localized social engineering in Iraq pre-2003 and its fallouts on the countrywide social engineering post-2003 was beyond the scope of the research. Also, I tried to obtain women engineers particular experience of their engineering role, and how Iraq's systemic changes had influenced it. However, because their feedback was in line with that of their men colleagues in terms of general marginalization for political-economic gains, I have decided not to assign a separate section for that. Perhaps meeting more women engineers could have pushed me to represent their input differently. For instance, a couple of women respondents disclosed that at an early stage of their career, they struggled within a men-dominated working environment to confirm themselves as competent engineers (Intrv.27, personal communication, March 20, 2020; Intrv.33, personal communication, March 04, 2020). Lastly, a part of the main findings could feed into research on the history of Iraq state's working adopting the literature on Arab countries de-development. For this research, the literature on techno-politics provided a robust base to interrogate the socio-political role of local engineers.

Finally, the debate on the neutralization of expertise might be taken further in two directions. First, by looking into the changing socio-political role of other types of experts within the same context. For instance, how do environmental scientists deal with the ecological fallouts of the expansion of the oil sector? Are they assimilated, neutralized or marginalized? Also, dozens of medical and pharmaceutical students are being turned into marketing agents for pharmaceutical companies, as much as engineers are turned into Public Relations officers for the multinational oil companies. This is a

widely noticed phenomenon in society not only in Iraq but also in Lebanon. Corporates are transforming the role of young experts from that of potential agents of scrutiny and challenge to zealots. Second, a cross-contexts analysis might shed further lights on the socio-political position of experts within the global political-economic dynamics. How do engineers relate to power in other countries in the region with different political setup, such as Egypt? Also, in many countries around the world, experts are being undermined by politics, as noticed in the response to the COVID-19 crisis in the US and the EU. Critical expertise is being sidelined, marginalized and discredited at times for political and economic reasons. As an example, Trump and his aides worked to sideline and undermine the World Health Organization in an attempt to shift the attention, amid sharp criticism of the US response to COVID-19 (Hudson, Dawsey, & Mekhennet, 2020). One can see the death of techno-politics - that used to instrumentalize technical expertise- reflected on the look of technical experts listening to a populist leader or a 'technocrat' politician preaching for strange solutions to pressing issues, such as a pandemic or economic recession. To conclude, the death of techno-politics suggested by the research, at least in Iraq's context, is not 'accidental', just like its global dispersion post WW2. The exclusion of certain expertise is premeditated to eliminate challenges to global and local political and economic workings, on many occasions, against the public good.

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