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Political Nepotism
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&

Supervised by
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I declare that I have written this doctoral dissertation alone, that I have indicated all sources and bibliography which I have used and that I did not submit this dissertation in satisfaction of any other degree, academic award or study programme but the one quoted above.

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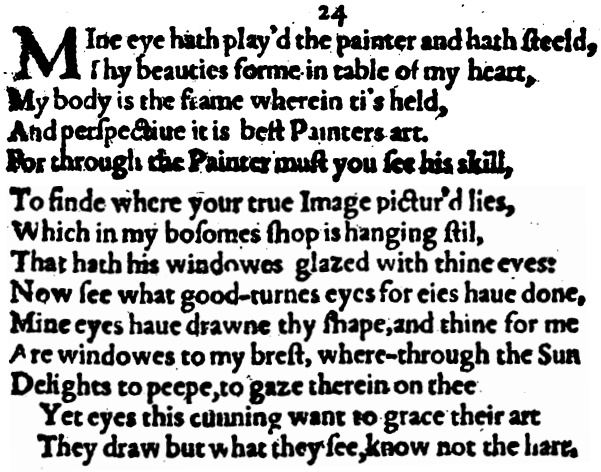
In Melbourne, Victoria, on the Ides of March 2015,

Jiří Šebek

Evě

Epigraph

'A perspective' is the motto of this dissertation. Though originating in Latin for 'looking closely,' what surrenders the word's gist is reading it aloud with the French word stress in Shakespeare's sonnet number 24 as is required in order to finish the first quatrain in the perfect iambic beat.



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Mine eye hath play'd the painter and hath ſteeld,
Thy beauties forme in table of my heart,
My body is the frame wherein ti's held,
And perſpectiue it is beſt Painters art.
For through the Painter muſt you ſee his skill,
To finde where your true Image pictur'd lies,
Which in my boſomes ſhop is hanging ſtil,
That hath his windowes glazed with thine eyes:
Now ſee what good-turnes eyes for eies haue done,
Mine eyes haue drawne thy ſhape, and thine for me
Are windowes to my breſt, where-through the Sun
Delights to peepe, to gaze therein on thee
Yet eyes this cunning want to grace their art
They draw but what they ſee, know not the hart.

FIGURE 1 Sonnet 24 by William Shakespeare (1609), reproduced from the original quarto in 1892. Digitized by *Google* from a bound copy marked *Harvard College Library*.

Abstract

In English
There is circumstantial and scientific evidence of nepotism in Europe and USA, and among politicians, judges and other elites. Despite this, an access to positions of power in a liberal democracy is restricted in the sense that occupational following in the offices is subject to public scrutiny. There is a conflict between a personal obligation to promote one's kin and a public obligation to promote liberty. This public duty emerges from a duty to allow access to offices of power to those who have the misfortune of not being born as dynastic followers. It is based on John Rawls's original position which is a thought experiment establishing an impartial environment to detect chief principles adjudicating conflicts of moral doctrines, fairly. In it, the condition of impartiality is achieved by means which are found in this dissertation to be excessive. Its blanked ban on biases immolates even those biases which contribute to fairness, despite their partiality. When nepotism is partly considered an expression of altruism, it shows a capacity to increase cohesion, impede free-driving and improve economy. In order to preserve these virtues, an improved condition of impartiality is offered to enhance Rawls's theory and to classify instances of nepotism according to their effects on improving or hampering liberty for all.

Keywords
theory of justice; John Rawls; original position; nepotism; Czech Republic; isonymy; Yule's *K*; Fisher's α

Česky
Z vědeckého výzkumu a z obecného povědomí je zřejmé, že v Evropě a Spojených státech je nepotizmus rozšířen mezi politiky, soudci a dalšími elitami. Přístup k pozicím moci v liberální demokracii je věcí zkoumání politické filosofie, protože dynastické následnictví je v oblasti správy věcí veřejných předmětem intenzivního veřejného zájmu. Jde totiž o konflikt mezi osobní povinností podporovat členy svojí rodiny a veřejným zájmem chránit svobodu všech. Povinnost vůči veřejnosti vyplývá z povinnosti zachovat přístup k pozicím moci také pro ty jednotlivce, kteří se bez svého přičinění nenarodili do rodin angažujících se v politice po generace. Povinnost je vyvozena z myšlenkového experimentu Johna Rawlse, který se nazývá výchozí stav. Ten zakládá podmínky nestranného prostředí, v němž lze objevit pravidla pro férové řešení konfliktů vznikajících z rozdílů v morálním přesvědčení. V původním výchozím stavu Rawlse je ovšem nestrannost vytvořena pomocí nástrojů, které jsou neúměrně restriktivní. Zakazují jakoukoliv odchylku od nestrannosti, i takovou, která by jinak přispěla k férovosti celkového uspořádání společnosti. Pokud lze nepotizmus vnímat z části také jako prostředek k vyjádření osobního altruismu, přináší výhody ve formě zlepšení sociální soudržnosti, potlačování společensky poškozujícího jednání a zvýšení ekonomické výkonnosti. Z důvodu zachování jeho morálních předností je v této dizertaci popsána vylepšená podmínka nestrannosti, která má za cíl zdokonalit Rawlsovu teorii spravedlnosti v této oblasti a klasifikovat dopady nepotizmu podle jejich vlivu na zajištění svobody pro všechny.

Klíčová slova
teorie spravedlnosti; John Rawls; výchozí stav; nepotizmus; Česká republika; isonymie; Yulovo *K*; Fisherovo α

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Also, I wish to perform this act of illocution: Thank you, John Rawls!

Jiří J. Šebek

Introduction

For long, the term *nepotism* has been expropriated in biological sciences and economics even though it had emerged as a term signifying a unique political arrangement: a preference of kin in appointments to offices of power. This dissertation offers to review the knowledge pertaining to political nepotism from within the field of political science, and it will bring together findings from anthropology and business. This examination is performed in the context of a major theory of liberty, that of *A Theory of Justice* by John Rawls (1999).

This analysis of political nepotism is conducted in four steps. First, an overview of facts and observations of nepotism is offered in the chapter on *Nepotism*. There, a moral conflict underlying nepotism is outlined and some historical evidence is given. It will become apparent that preference of kin may increase organisational efficiency but also that it may discriminate against non-dynastic individuals. In addition, a tendency to altruism in humans will be expounded, and a suggestion of anthropology to nepotism's exogenous and evolutionary origins will be explored. Finally, political nepotism will be inspected as an instance of occupational following and as an expression of evolutionary altruism.

Then, the general layout of justice as fairness will be put forward in the chapter on *John Rawls's Theory of Justice*. This chapter gives an introduction to the theory, explains the notion of justice as fairness, reviews principles of justice, distinguishes the substantive justice present in it, and deals with Rawls's *original position* and with underlying assumptions for its establishment, one of which is Rawls's *thin* theory of the good. In the chapter *Analysis and Synthesis*, the theory will then be made subject to several critiques which have been mounted against it since its first publication in 1971. There, the problem of priority when adjudicating primacy of competing moral values is scrutinised, an inherent *bias against virtue* in Rawls's original position is uncovered, and an enhanced thought experiment is offered to assure the necessary level of impartiality needed for assorting competing moral claims. Then, in order to test this improvement, an empirical test concerning political nepotism is constructed.

In the chapter *Testing the Theory,* a test of John Rawls's theory is performed. It rests on a claim that the theory does not explain the existence of political nepotism, unless the political system produces no primary social goods in abundance. A competing hypothesis is offered as an improved theory of justice. This alternative states that some political nepotism is allowed, under certain conditions, while primary social goods continue to be produced. The test is performed on politicians who have been elected within a recent 19-year span into offices of power, in the Czech Republic. The

conclusion of the test is that there is political nepotism indicated, in the Czech Republic. Complementary elite groups are assessed for indices of nepotism by using the same method, in order to create benchmarks. These are judges, notaries, civil servants at the Foreign Office and attorneys, in the Czech Republic.

After the test is concluded, a judgement is reached and an impact on the theory is offered, in the final chapter on *A Theory of Justice as Equity*. There, a fresh formulation of the theory is given in order to improve the discrepancy detected in the original position of John Rawls. The reformulation entails core conditions of a social contract which he propounded, and it improves the mechanism for achieving a reflective equilibrium between the principles of justice and one's political convictions. The new formulation restores the balance between an amicability of settlement and fairness of institutional arrangements, in the context of goods which may be considered illiberal by the legacy theory of justice but which are found to contribute to fairness. It will also be shown that re-formulated principles of justice are rationally relevant, and that they rather refine the continuum of liberty offered by Rawls than purport a revolutionary shift of it.

In this dissertation, nepotism will be paid its political due, it will be shown anew, and an improved method of achieving a reflective equilibrium between individual and political values will be offered to reach a better understanding of the current state of affairs, that is of liberty.

CHAPTER I. NEPOTISM

There is evidence of political nepotism spanning the world from the USA to China, from authoritative regimes to liberal democracies. It has been noted by the ancient Greeks, and a preference of kin in appointments to offices of power has been obvious as early as in Renaissance Vatican, China of the Qing, and until the present day in liberal democracies. Nepotism is prominent in business, it seems to provide a competitive advantage in some cases and decreases organisational justice in others. Nepotism in business seems to pass as instances of 'occupational following,' that is following in parents' careers. The anthropological account understands nepotism as an expression of altruistic traits which promote those individuals who show cues of genetic similarity. It is argued to be a major strategy to overcome the problem of free-riding in human groups, and as such nepotism seems induced exogenously by evolutionary mechanics. In a liberal democracy, occupants of offices of power are put under a fiduciary duty to the group not to promote their own kin to offices of power because the offices are public assets unlike in businesses. Yet, there is occupational following evident among politicians, judges and civil servants. Nepotistic tendencies in offices of power indicate conflicts of moral doctrines, one which observes the duty due to the public and another to give own kin their due.

1. Circumstantial Evidence

There is plenty of circumstantial evidence of political nepotism. For example, the *Economist* has been noticing families in politics in their features 'A Little More than Kin' (1995), 'Like Father like Son' (2001), 'The Curse of Nepotism' (2004), and most recently in 'America's Elite: An hereditary meritocracy' (2015). The *Economist* finds nepotism a manifestation of altruism in which patronage is conferred in families. It concludes that families are not good at running countries, and it lists the medieval Papacy, North Korea, Soviet Central Committee of 1953 to 1975, ruling families such as China's Deng Xiaoping, Haiti's Duvaliers, Antigua's Birds, and countries such as Philippines, Sri Lanka, Saudi Arabia and Singapore as riddled with nepotism. The *Economist* also mentions the 19th century reform of the British civil service to prevent nepotism. For one, an acute need for meritocracy in the administration of the United Kingdom is apocryphally evident from Lord Tennyson's poem *Charge of the Light Brigade* which described dire effects of incompetence shown by hereditary commanding officers in the Crimean war, in 1854. With a focus on the Middle East, the *Economist* takes Syria under the Assads, Israel's Omri Sharon, Egypt's Hosni Mubarak, Iraq's Saddam Hussain, and ruling families in Yemen, Libya, Oman and Qatar as instances of nepotism. The *Economist* even claims, perhaps unfairly, that among Arabs loyalty is prized above ability, and therefore the patriarchal family forms a persistent institution of the state (see also Sidani and Thornberry 2013). The *Economist* does not spare the United States, either, as it cites the influence of the Bushes, Powells, Chao/McConnells, Scalias and Cheneys. Academia is partly to blame, the *Economist* shows, as members of prominent American families are fed into the political system by the

top universities which provide a preferential treatment to children of their alumni. Among the Ivy League, these 'legatees' take up to 15 percent of every freshman class, the *Economist* claims. And further, the *Economist* (2015) says 'America's elite is producing children who not only get ahead, but deserve to do so: they meet the standards of meritocracy better than their peers, and are thus worthy of the status they inherit.' There has been kin appointed to presidential cabinets in the USA when for example Douglas Craig (2013, 910 and 915) observes presence of kin in Woodrow Wilson's cabinet even despite this president's reported unease with nepotism. But then some things have changed. For example since 1967, American presidents have been forbidden to appoint their spouses or other close family to the cabinet by law. The restriction is codified in the *Postal Revenue and Federal Salary Act* of 1967, §3110, 'Employment of relatives; restrictions.'

Nepotism seems rooted in personal affections: the circumstantial evidence in Indonesia helps Fiona Robertson-Snape (1999) observe that nepotistic appointments flourish in a society where a loyalty to family is stronger than a loyalty to the state or to public duty. The same observation is made in Bangladeshi civil service by Ishtiaq Jamil (2002) who claims that nepotism and patronage are common in an administration plagued by clientelism. Nepotism seems omnipresent. The family has been at the helm of the most but also the least corrupt societies. The family is reported among local politicians in Iceland (Sæmundsdóttir 2012) where they promote kin and violate principles of fairness like their Kazakh counterparts (Barnes 2007) do only on a different scale. Apart of politics, according to Richard Reeves (2003), nepotism is most evident in the power of a name and the patronage it bestows in arts and media where name recognition is considered a business asset. Nepotism is linked with occupational following inspired by the milieu and socialisation of the family, and this following is also evident in a dynastic calling for public service, claims Reeves. Nepotism flourishes in environments which rely on loyalty. And what better loyalty than the nuptials, writes Reeves, when powerful families affiliate among themselves by ties of marriage. It is a common expectation that people with similar social backgrounds tend to socialise.

2. Moral Conflict

For at least 2,400 years, it has been known that civic duties and duties towards kin can come into conflict. An early example is captured in Plato's *Euthyphro* (Cooper 1997, 1–16). There, Socrates meets Euthyphro who is on his way to visit the magistrates. Euthyphro's dilemma is as follows: either to respect his father or to report his father's crime. Socrates makes it clear that Euthyphro is in conflict between his obligation as a citizen of Athens to seek justice with the magistrates and his sense of filial piety on behalf of his father. In a recent rendition of this ancient theme, Albert

Camus is reported to have claimed that, in the face of terrorism in the streets of Algiers, he would defend his mother before justice of the *pieds-noires*' struggle (Apter 1997, 499). The conflict of civic and familial loyalties must have been significant to make the 1957 Nobel Laureate denounce a just political cause and to prefer his family with such eloquence and at a time when he was awarded the prize for clarifying problems of the contemporary 'human conscience' ('The Nobel Prize in Literature 1957,' 2014).

The task to regulate effects of nepotistic loyalties in a political system is old. In Europe, it can be traced back to Pope Innocent XII and his 1692 edict 'It befits the Roman Pontiff' in which he limited appointments of future Popes' relatives to offices of power in the Vatican and restricted their benefits. In the edict, the Pope claimed that in curtailing nepotism he acted 'according to laws of equity and justice' which suggests that nepotism must have impeded fairness and propriety at the highest level in the Vatican.[1] A prominent historian of the Papacy, Owen Chadwick (1981, 301-2), notes that relatives often assisted European rulers in government because their loyalty was not doubted and because their interest was aligned with the hereditary ruler in preserving primogeniture and stability. In the case of Roman Curia (government of the Catholic Church), however, Chadwick notes that no Pope has ever attempted to turn it into a hereditary regime. There has never been an attempt made to establish an uncle-nephew succession of Popes, by right. Instead, Chadwick claims that it was the Roman aristocracy which strove to dominate the Church's lands if not her government as secular principalities and through Popes. When celibacy eliminated the possibility of bishopric lands becoming inheritable domains, Popes were faced with the need for a loyal bureaucracy to govern with, and they turned to their families, according to Chadwick. There are additional concerns cited such as expedience, 'moral right' and 'moral duty' to promote and honour the Pope's family. The public apparently expected the Pope's family to maintain a representative standard of living, and it would blame the negligent Pope unless he prevented his family from living in poverty. This moral duty and need for loyalty in affairs of state was evident in the office of the cardinal-nephew who linked the sovereign Pope with the Curia and through whom many Popes ruled. In the mid-seventeenth century, Chadwick noted (p. 303-4), this idea started to crumble with Pope Innocent X when his reliance on kin went awry, and then the word nepotism attained its sinister meaning. With Pope Innocent XII, the office of the secretary of state took off and that of the cardinal-nephew started to diminish.

[1] See the phrase 'iuxta aequitatis et iustitiae leges' mentioned in the preamble of this papal bull (Innocentius XII 1870); the name of this edict is the latin incipit *Romanum decet Pontificem*.

This chain of events did not mark a definitive end to solving the political conflict of conscience, accentuated by Camus as a love for his mother instead of his duty due to the fatherland. When in this dissertation nepotism is understood as an expression of an allegiance to kin, it is a personal commitment with a political overtone, a pledge which is difficult to break and one whose effects permeate all bodies of the state. In the current understanding as in the 17th century Vatican, nepotism takes a menacing turn. But to no surprise, millennia ago, it was the most cynical sophism of Ancient Greece which was recorded to invoke the demon when one Thrasymachus scorned the *just* man for a *failure* to do his relatives an *unjust* (sic!) favour while in office (in Plato's *Republic I*, see 343e or Cooper 1997: 988). This claim is outrageous all the more because the sophist seems to have cast doubt over an imperative ingrained in all humanity: protecting one's folk must be good, or is it? John Stuart Mill (1879, loc. 797 ff.) replanted this indiscriminate drive to promote one's kith and kin into the modern context when he found a person blameworthy who gave his family and friends no preference in benefits over others when he does so without violating any other duty. Mill sets a political boundary to the primeval urge to prefer kin: impartiality for Mills takes precedence over partiality to kin when there is a need to consider and to respect rights of everyone in the domain of the 'public interest.' Like Pope Innocent XII, Mill finds it proper to prefer kin up to the point when risking to violate principles of justice and equality.

This brief sets the stage for an examination of nepotism. If conscience is the judge of propriety of preference for kin, then the preference is a judgement of merit or demerit, and the award is moral. The dispute of public and private interests is resolved in a system of principles, and the chief principles are justice and equality when the public is concerned. For Mills, the appropriate moral judgement follows from impartiality; and it will be shown later in this dissertation how impartiality remains relevant in adjudicating nepotism today.

3. Family Values in China

Attempts to curtail nepotism in administration are not limited to the Papal states nor to the late Renaissance Europe. Robert Marsh (1960) gathered evidence from China about constraints on nepotism in the imperial bureaucracy. During the reign of the last imperial dynasty, Marsh reports that despite the dominant Confucian culture centred on family, the Qing managed to develop a centralised bureaucracy based largely on appointment and salaried, non-aristocratic officials recruited from examinations of non-Manchu applicants. He demonstrated this by statistically correlating career promotion with achievement rather than family background when examining records of 572 Chinese civil servants and commanding officers. Even though, as Marsh argues, the

family in China performed additional social functions to that in Europe – for example, members of one family were often held collectively responsible for each other's action – a conflict of familial interests with the imperial government resulted in punishment of the violator, be they at the highest level. For example, Marsh notes a 1781 case when the Emperor reprimanded the governor general of Fujian and Zhejiang for his failure to disclose his brother's corrupt behaviour, despite the existence of a Qing law which required relatives to *conceal* rather than report each other's crimes. Marsh claims that statutes like the 'law of avoidance' (p. 130) were used to control nepotism in the bureaucracy by banning officials who were related by blood or marriage from engaging each other at work and from serving in one province. Other controlling measures prevented loyalty to kin from impeding loyalty to the imperial government. These were principles of seniority, recommendation, mutual responsibility and collective punishment. Marsh however concludes that not all forms of favouritism present among Chinese officials of the Qing period (p. 132) were eliminated.

Confucian family values are reported to be at the root of nepotism in China. Siu-lun Wong (1985) observes that the 'family firm' continues to dominate Chinese businesses which invariably display patterns of nepotism, paternalism and family ownership. Irene Yeung and Rosalie Tung (1996) have developed the argument further and attributed the commercial success of Chinese companies to the prevalence of the concept of *guanxi* which stands for relationship or connection. The *guanxi* is reported to be a widely-shared cultural norm in China. It stresses repaying favours with increasing favours as to avoid a balance of reciprocities. A balance would indicate a break-off point, and in this *guanxi* is reported to differ from an occidental concept of reciprocity which strives to maintain a balance between benefactors. Yeung and Tung claim that though Europeans often regard *guanxi* as an expression for nepotism, it is rather an expression of a Confucian-based moral imperative for conducting business between acquaintances. For Yeung and Tung, *guanxi* becomes important for running companies after it is no longer sufficient to rely on family members as Chinese businesses grow larger. Yeung and Tung observe that the *guanxi* also seems to form the foundation of Chinese political interactions and that it is expressed in the affinity of the Chinese to their places of origin, the 'ancestral village' (p. 61). In contemporary Chinese politics, there is new evidence of nepotism published by, for example, Cheng Li (2000). Li lists several of the 'fourth generation' Chinese national leaders who have high-ranking communist cadre family backgrounds (p. 36). He also states that there has been a growing resentment of the People's Congress deputies towards electing candidates from political dynasties to the Central Committee. Despite this resentment, Li concludes that nepotistic patronage (benefiting a group of officials widely recognised in China as the

'princelings') was advantageous for the fourth generation of Chinese political leaders (p. 38). The fourth generation is considered to last from 2003 until 2012.

4. Wealth and Family

China is not alone in showing prevalence of kin in politics and business. General attitudes to nepotism in America underlie David Ewing's research (1965). Ewing analysed inclinations towards nepotism among American businessmen by questioning 2,700 managers in the mid-twentieth century as part of a study of the *Harvard Business Review*. The majority of polled participants justified nepotism in business in specific circumstances, and just about every respondent (92%) agreed to hire a close relative of an existing employee if there was no qualified non-relative available. Ewing claims that a substantial group of respondents reported to have been patrons to relatives or beneficiaries of such patronage, but he also noticed that a great majority of respondents would deem nepotism in companies as anti-democratic, creating jealousies and preventing able job seekers from applying for vacancies. Many respondents were reported to claim that they believed relatives of current managers to be 'exceptionally well qualified,' that a family relationship could instil a sense of responsibility, and that it could make the relative more interested in the company and its products. Due to methodological shortcomings of this study, it is impossible to make general claims pertaining to all management in America of 1960s; but the study is sufficient to outline an ambivalence concerning nepotism as many respondents seem to have been holding conflicting views of it.

Nepotism in business is an established subject for study by economists. In the USA, family-owned businesses generate the majority of the GDP and employ the majority of people, see for example the empirical evidence reviewed by Jennifer Spranger et al. (2012, 151). Further, existence and prevalence of nepotism defies a rational prediction which argues that over a long run, in the perfect market conditions, principles of competition will cause companies which perform under their optimum capacity to perish because preferring relatives to the most effective workers when hiring new staff decreases their capacity to produce wealth. But, when examining existence and persistence of wage differentials, Matthew Goldberg (1982) concludes that nepotism towards the white worker rather than racial prejudice against the black explains better the empirical evidence for wage differentials between otherwise identical workers. Even though discrimination according to race leads to the expected outcome (firms which discriminate according to race perform under their optimum and lose eventually, in a long run), preferring one's kin among whites in hiring did not lead to the same end. To the contrary, Goldberg concludes that even though a discriminatory firm might not survive in a long run as a result of competition with more efficient business entities, firms

exhibiting nepotism survive and strive in the long run. The utility gain from nepotism, Goldberg argues, is larger than diminishing of profits which is a result of hiring less black workers than is optimal, in theory (see Goldberg's non-pecuniary gain of staying in business, pp. 316 and 318). Larry Singell and James Thornton (1997) confirm this theory by an empirical finding. Singell and Thornton observe existence of such theoretically argued non-pecuniary advantages arising from nepotistic arrangements in Utah. They analysed family farms and observed that by hiring family (at an increased cost), family farms trade profit (the loss made by the difference in pay) for non-market gains (utility) which allows them to compete with profit-maximising farm operators who do not prefer their families. Nepotism allows the family farm to survive and even succeed robustly, in a long run, according to the study.

The advantage which nepotistic strategies provide in generating wealth is striking all the more because the strategies are not taught in management courses and because nepotism is often perceived as damaging to equality The ambivalence to farm nepotism is perhaps accentuated by its perceived harmlessness or by its idealised expression in the 'family farm.' This sentiment may have a historical root, and it finds a historic expression in the Nordic *udal* law which gives a family the right to redeem a farm if previously sold to a stranger even without his consent (Jones 2012, 111; Joranger documents *udal* inspired sentiments in mid-western rural America, in his 2008 paper). Yet, economic benefits of consanguineous marriages (between first cousins) have not escaped the attention of human demographic research (Bittles 1994). And, farming is a business like any other; in Europe and America it is dominated by large scale operators.[2] Nepotism may have given these operators an impetus to defeat their competition.

If family is what it takes to succeed in business, then such an impetus would have been observed in non-farming areas because, after all, in farming the apocryphal husbandry skills can as well be transferred in the genome. But then, in the American medical profession, it has been observed that transfers of knowledge from parents to children do not explain the prevalence of doctor careers in families, either. The probability of being admitted to an American medical school has been documented by Bernard Lentz and David Laband (1989) to be significantly improved for doctors' offspring compared to children of non-doctors in the 1979 data available from the Association of American Medical Colleges (a sample of 8,477 twenty-two-year old applicants to medical school). Lentz and Laband argue that it is impossible to explain this increased chance of being admitted as a

[2] For example, data from the Eurostat (2014) show that in 2010, agricultural holdings of 5 ha or less utilised a minor share of the total agricultural area (14.7 %), in the European economic area, see key farm variables given in the 'Agriculture, Farm structure, Farm structure 2010' data matrix.

result of 'intergenerational transfers of knowledge' (p. 398).[3] Rather, they argue that this is a result of favouritism towards children of doctors in medical schools. When controlling for the knowledge (which also contributes to the likelihood of being admitted), Lentz and Laband demonstrated a statistically significant effect of having a father who is a doctor which increased the likelihood of being admitted. Similarly, in Swedish peer-reviewed applications for Medical Council postdoctoral fellowships, Christine Wennerås and Agnes Wold (1997) observe a tendency to overrate applicants affiliated with the 'scientific élite' unaccounted for by transfers of knowledge from the high performing scientific patron to his pupil. Wennerås and Wold attribute the difference partially to favouritism due to nepotism, and they suggest a greater transparency to assure accountability. Ulf Sandström and Martin Hällsten (2008) have confirmed these findings subsequently. These three studies consider nepotism as a logical explanation of the observed favouritism, but neither provides direct evidence of it.

Peter Groothuis and Jana Groothuis (2007) try to discover the causal mechanism and argue in the case of NASCAR drivers who are often interrelated that it is not favouritism but indeed a transfer of knowledge and capital between generations which motivates sons to follow in their fathers' racing career. Based on 30 years of career statistics, they computed that the drivers who are related to other drivers have the same length of career when compared to non-related drivers with corresponding competence. Nepotism would have shown in that the related drivers would perform worse than non-related drivers, having their careers cut shorter, on average. Any nepotistic impetus to succeed as a NASCAR driver then is, according to the Groothuises, purely coincidental. Other research however attempts to isolate the non-pecuniary gain or utility which is derived from nepotism in hiring kin. In an experiment conducted by Sheheryar Banuri, Catherine Eckel and Rick Wilson (2012), it is demonstrated that preference shown to kin persists even despite economically disadvantageous consequences of this preference because people tend to believe that relatives are trustworthy. This belief may add to cohesiveness of the arrangement and paradoxically to improve overall productivity. The impact was such that the authors offer to re-consider rules banning nepotism because in some instances, if nepotism were allowed, nepotistic sentiments would have increased productivity of the organisation even though they would have also increased discrimination (pp. 23-4). Both of these studies show that preference of kin can pay, and the question is rather where to draw the line when condemning that preference as nepotism. It can be far-fetched to demand an

[3] This knowledge consists, according to Lentz and Laband (1989), of motivation provided by doctor-parents, effective assistance in selecting relevant education traits before admission which favour admission to the medical school, help in completing the study, and knowledge to improve offspring performance in the medial profession, the kind of which is not provided by formal training accessible to all.

equal opportunity of becoming a NASCAR driver; but it might not be far-fetched to expect an equal opportunity in becoming, for example, a policeman even despite causing a decrease in the overall productivity of the police force as a consequence of becoming one.

The presence of kin in business organisations has been observed to impede perceptions of justice. In a case of 21 family-owned firms, Jennifer Spranger et al. (2012, 158) document that employees who are not members of the owners' families report on average a lower level of perceived fairness at the work place (defined as 'organisational justice,' Jason Colquitt et al. 2001). Further, the correlation of a perceived diminishing merit and increased preferential treatment of family members in management is assumed (by the means of the two being confounded in one scale) and becomes a part of regular research reported in the World Economic Forum's *Global Competitiveness Report* (see e.g. Schwab 2014, p. 490 and the scale of the question 7.07 on nepotism). In addition, Peter Jaskiewicz et al. (2013) list evidence which shows that nepotism in companies can both worsen or improve productivity. Jaskiewicz et al. argue that the utility of nepotism depends on the kind of interactions which it promotes. Jaskiewicz et al. propose a causal link between improving productivity with the kind of nepotism which strengthens social exchanges between family members who are interdependent, engage in social exchange, and abide by obligations due to family members. This 'reciprocal nepotism' is expected to improve economy as does any generalised social exchange between workers which contributes to transfers of tacit knowledge, according to Jaskiewicz et al. They argue that the kind of nepotism which is detrimental is one which arises from preferences shown between relatives which are based on criteria unrelated to business acumen, such as primogeniture (p. 124). This nepotism is labeled 'entitlement nepotism,' and it has an adverse impact on company performance because benefactors of entitlement nepotism act on a lack of duty to work for a common familial good. Preference shown to kin in businesses affects justice, and effects of nepotism can both contribute but also harm company productivity. These effects are so pronounced that in her analysis Karen Vinton (1998) proposes an interdisciplinary model to provide practical advice to managers on nepotism; her model would cross legal, financial, behavioural, managerial and environmental areas (p. 302). Apparently, family and business tend to *marry* out of convenience.

In another attempt to take a multidisciplinary approach and to bridge the social and political, Evert Van de Vliert (2011) uses data on preference of kin in the work place, 'familism' (an index of in-group collectivism in families) and shared patriotism to explain levels of favouritism shown towards members of the same nationality in a comparative study of 178 nations. Van de Vliert finds such nationalism broadly correlated with environmental conditions. He defines these conditions as a

cultural response to demands of the environment on resources, levels of harshness and threats to survival which environmental conditions impose. While economists have shown that nepotism has a capacity to contribute to creating wealth while affecting perceptions of justice, Van de Vliert's account suggests that there is an exogenous cause to nepotism.

5. Tendency to Altruism

Exogenously induced tendencies, such as nepotism, which demonstrate themselves in political concepts, such as in nationalism, have been met with a substantial anthropological scrutiny. For the anthropologist, the research question seems whether favouritism shown to kin provides an advantage to genetic transmission in the great game of evolution. Yet, an anthropological analysis of nepotism has a political consequence: if there is an advantage of nepotism in terms of survival and reproduction, political philosophy needs to treat it as a condition which is requisite for the human species rather than as trivia to be wished away as a nuisance corruptive to justice or as a peculiar means to generate wealth.

Nepotistic bias is seen across the primate order of species (Silk 2009). Anthropologist Doug Jones (2000) argues that humans display adaptations which make them prone to constructing groups based on solidarity and which solicit altruism or strategies leading to altruism such as reciprocity (also Wilson and Dugatkin 1991) towards kin from its members. This 'group nepotism' can, according to Jones, differ from a biological relatedness. In his analysis, Jones shows that this adaptation leads to patterns of behaviour ranging from the demand sharing of food among subsistence hunters to a complex ethnocentrism. Jones is addressing a critique of evolutionary principles which are admitted to shape human social behaviour to a limited extent, for example in families, but fail to provide convincing explanations for other social structures. For Jones, a measure of altruism shown towards kin cannot be a function of similarity in individual genetic makeup because humans are not equipped to perceive degrees of DNA similarity, which is a claim originating already with Richard Dawkins in 1976 (2006, 89-90) or explained by Johnson et al. (1986, p. 131) in 1986. Jones's approach is novel in that he proposes to shift the level of analysis: he argues that it is rather a group requirement than an individual tendency which provides a feasible grounding of the mechanism behind a loyalty to kin in that kin loyalty is enforced as a social norm. This also allows for kinship to be socially defined rather than biologically determined. Jones argues that one of the requisite human adaptations are 'moral sentiments' which help solve problems in collective action of humans. These 'moral sentiments,' which motivate an individual to engage in cooperation to produce social goods for all, help cope with the problem of the free-rider, according

to Jones. The free-rider is an individual who does not contribute to mutual cooperation but benefits from the social goods generated by that cooperation. The free-riding strategy generates less cost for the free-rider than engaging in cooperation which creates costs for those who participate in it. But Jones argues that due to 'moral sentiments' (to support the group) there is enough cooperation so that free-riding does not disintegrate the group. Jones's group nepotism and requisite 'moral sentiments' of altruism towards kin in humans seem to present an evolutionary means to prevent the free-riding problem in human societies. Christopher Boehm (1999) goes further and argues that the requisite sentiment is an attempt to establish equality within a group which could have been established in prehistoric hunter-gatherers and which curtailed the free-rider.

In Doug Jones's contribution (2000, 782), there is a conceptual difference between understanding a cooperation as a model problem of two individuals or when it is a model problem to be solved rationally by three or more individuals. In the case of two individuals, both can be understood as equals and this leads the theoretician to justify one set of assumptions regarding cooperation (e.g. costs and benefits of cooperation split equally, in the model, to determine the ideal break-even point for the motivation to cooperating to occur). In this particular understanding when applied among three or more individuals, one of the individuals can be outweighed by the remaining two: the increased population increases the threshold to cooperation because a benefit of cooperation would be split among three or more equal shares which are then smaller relative to the cost of altruism for the one who considers helping. But, Jones argues, the two individuals do not necessarily act against the interest of the one who needs help every time there is an imbalance of their individual utility disfavouring the helpless individual. This requires a new model which Jones provides.

When there is a common loyalty to the group, one which is shared among three or more individuals, then a contribution to this loyalty provides an additional benefit. Then, the compound benefit of contribution is larger, and then individual shares of the benefit are larger which sets the threshold of rationally consenting to cooperation lower (the break-even point with an individual cost of altruism) than previously. According to this new model, Jones demonstrates that once a moral sentiment of group altruism ('group nepotism') is factored in the cooperation of three or more individuals, that is when it becomes a social good and there is more cooperation rationally possible in human societies than which is permitted by the former models of two individuals cooperating as unconcerned equals. In addition, Doug Jones demonstrates that a culturally or genetically inherited motivation ('allele') for group nepotism will become dominant even in a society which would be originally dominated by a theoretical allele which treats individuals as equals (individual nepotism) in the process of natural selection. Jones further demonstrates that the tendency to group nepotism will be

stronger in societies which are already divided among groups with distinct group loyalties, and that in such societies, the genetic makeup of such groups will become more homogeneous within group as a consequence of requisite group loyalty. Apparently, the moral sentiment to promote one's group contributes to forming genetically uniform kin within such groups which then become distinct genetically. In larger groups, for the group nepotism strategy of coping with free-riding, it is necessary to start enforcing the requisite moral sentiments among members of the society and to start punishing 'non-altruists' (p. 785), according to Jones. A similar claim is made by Scott Woodcock and Joseph Heath (2002) who modelled effects of punishment on promotion of group advantageous traits in individuals. From Jones's analysis and the debate which ensued, it is apparent that, in principle, there is a rational reciprocity between human genetic makeup and social structures in the area of favouring one's kin.

Doug Jones draws on an earlier model called the 'genetic similarity theory' propounded by Philippe Rushton,[4] Robin Russell and Pamela Wells (1984). The theory extended altruistic aspects of cooperation in human societies in that passing genes on to offspring directly and propagating genes in parallel (William D. Hamilton's original discovery, or *Hamilton Rule*) was argued to lead to a version of altruism which expanded to a group wider than own kin. This assists the parallel propagation of genes and therefore contributes to fitness. Salter and Harpending (2013) claim that the tendency to prefer one's own genetically similar ethnic group is present in all populations, and therefore it indicates an evolutionary origin. But, it is not immediately obvious why such evolutionary altruism is stable. The substantial payoff of altruism in fitness (survival and reproduction) compared to the strategy of promoting self-interest had been eluding anthropologists. As a solution, the genetic similarity theory argues that the individual has a capacity to identify certain biological and cultural traces in others to assort them as kin or stranger. Support of such kin then adds to 'inclusive fitness,' that is to propagating copies of one's genetic material which is present in kin and therefore indirectly. Such putative kinship facilitates explanations of reciprocity and altruism among wider groups. It operates under the condition of genetic similarity defined in broader terms and with partial manifestations, and such 'ethnic nepotism' does not necessitate a direct biological descent. The evidence allowed Philippe Rushton (2009, 11) to conclude that 'ethnic nepotism is [...] a proxy' for family nepotism. Altruism towards kin who are similar then can be explained, according to an anthropological account, as a contributing factor to replicating shared genes (Rushton 2005). Elainie Madsen et al. (2007) have experimentally demonstrated that there is

[4] Philippe Rushton's research has been creating controversy as it seems to have contributed to opinions that there are substantial differences between distinct populations (termed 'races') in humans. Rushton's theoretical contribution to altruism induced by genetic similarity is not subject to such a controversy, in the scientific literature (Gross 1990).

this tendency to prefer one's own genetically related kin present in modern altruistic behaviour. An affiliation to own's kin is indicated to be the baseline for measuring other methods of promoting group interests, such as reciprocity, sociability, norms imposed by obligations, and a moral sense. As a consequence, Rushton (2005, 503) suggests that genetic similarity contributes to causality in political affairs. Others have argued that altruism induced by kin helped explain political concepts such as patriotism (Johnson et al. 1986), despite these affiliations encompassing non-kin at large.

It is important for this dissertation to notice that individuals recognise genetic similarity (kin) by non-genetic markers such as surnames, which is a claim originally theorised by Rushton and later confirmed empirically by Anthony Greenwald and Eric Schuh (1994). For example, by analysing authors of scholarly articles and grouping their surnames by ethnic origin, Greenwald and Schuh recorded a substantial tendency to cite authors of one's ethnicity more often than others, even after controlling hypotheses were accounted for and in areas of research in which one expects an acute awareness of how bias operates (e.g. fields of liberalism and prejudice research). Greenwald and Schuh confirmed that even in academia, authors show a tendency to prefer their own ethnicity at a subconscious level if not intentionally, and that this tendency seems explained by a shared ability to classify surname holders to groups of one's kin and others. Identical surnames may be tied with individually perceived 'subjective closeness' to others which is recorded to help humans determine genetic similarity (Neyer and Lang 2003). Also through an analysis of surnames, Sri Kantha (1991) documented instances of nominators for Nobel prize tending to nominate relatives in medicine and physics between 1901 and 1937. Kerris Oates and Margo Wilson (2002, 105) find that both first names and surnames can act as an arbitrary cue in humans to recognise kin in some circumstances.

Additional research shows that emotional preference for kin over non-kin is stable across a person's life-span, see Franz Neyer and Frieder Lang (2004) and their study of 24 and 84-year olds. Experimentally, Elainie Madsen et al. (2007) have shown that the tendency to perform altruistic acts (to prefer one's own kin) increases when genetic relatedness between the actor and beneficiary increases in a cross-cultural study relevant for both genders. Similarly, Steve Stewart-Williams (2008) demonstrated empirically that even though initially friends and romantic partners (who are recognised as genetically unrelated) tend to receive a larger amount of altruism than siblings, once the cost of altruism increases, the closer genetically related a person is considered to be, the more he or she benefits from altruism than non-kin. Humans are likely to incur costs when performing acts of altruism which they do towards individuals whom they believe to be kin; humans do so in addition to the tendency to prefer members of what one perceives as his own group.

Elainie Madsen et al. (2007) demonstrate that kinship alters the strength of altruistic behaviour, irrespective of intentions. They show that kinship causes altruistic behaviour towards others which is then altered by other individual criteria such as reciprocity, tendency to be social, feelings of obligation, and demands of moral sense. This effect is however blurred, according to the authors, by the imperfect capacity of humans to determine genetic relatedness which is done by reacting to cues. Specifically, the authors show that altruism is not caused by reciprocity, sexual attraction nor by generational effects. But also, even though altruism is determined to be a function of genetic kinship, the particular cues and motivations which underline altruistic behaviour were not determined by the study (p. 354); and apart of kinship, the study authors admit there are other reasons why humans have been observed to behave altruistically. In addition, Madsen et al. registered differences between the extent of altruistic behaviour displayed by women and men in that women are less likely to alter the intensity of their altruism by cues of genetic similarity (p. 355). The study acknowledges the prominent capacity of humans to favour sociality at the expense of personal cost incurred by adhering to social norms of behaviour (p. 340).

From all this it follows that there is an established evidence pointing to a strong tendency in humans to prefer their own kin in addition to displaying in-group altruism. There is a theorised and empirically observed effect of this preference acting out as a strategy to improve transmission of genetic information. There are well-documented cues which humans use as proxy determinants of genetic relatedness, and humans act on these cues to prefer own kin, even at a subconscious level. Doug Jones (2000) provides a rational model which explains how a perpetuation of preference to kin in the human population is possible when a tendency to altruism becomes morally binding within groups and when it is socially sanctioned at large. In her review of the recent research on justice, Karen Hegtvedt (2005) also proposes that a group affiliation determines the particular concept of justice held in this group. When individuals in groups are understood to create referential standards of fairness (same people receive same awards), then justice is a question of group primacy. Hegtvedt argues that an examination of conflicting group identities reveals the innate workings of justice. This suggestion and the anthropological account are assiduous in pointing out that individuals are members of various groups and feel in-group loyalties which may conflict to a varying degree, with kin being often closer than kith where kith denotes friends, neighbours and acquaintance.

6. Fiduciary Duty to the Public

A special case of kin being closer than friends, neighbours and acquaintance is appointment of kin in the public administration. This dissertation regards such nepotistic appointments unlike nepotistic

appointments made in family-owned businesses. No family can be argued to own the liberal state in the way a family owns and controls assets of a company. Then, added to the grief of the ones who are discriminated against, an appointment of kin in public administration seems to constitute a breach of trust to manage public affairs with regard to the public interest if the interest is indeed not to appoint officials by the virtue of their familial ties to holders of power. At the individual level, it is a conflict of in-group loyalties in which the patron sides with his own and the benefactor's interests and harms the public despite him being a member of this public group.

In America, the earliest record of rules against appointment of kin seems one made by Leon Aylesworth (1908) who noticed then-unique newly enacted anti-nepotistic statutes in Oklahoma and Texas targeting an abuse of the power of appointment. The statutes banned state officials from appointing persons of close affinity or consanguinity, and the Oklahoma statute contained an avoidance clause which banned relatives from working together within the legislature, executive and judiciary. Richard White (2000) groups anti-nepotistic statutes in the USA into four classes in relation to the type of favouritism they prevent: these are appointment of relatives by relatives, supervision of relatives by relatives, relatives working in one agency, and relatives in government contracting other relatives (pp. 109-10, and summary on pp. 112-3). Also, some statutes limit officials in political power from promoting their kin. On the other hand, White records a sentiment spread in the American public administration which seems to assert that if hiring of relatives were allowed, it would improve the working environment in smaller agencies of the government (p. 111). White gives an example of the Central Intelligence Agency which seems to encourage hiring of spouses who are then vetted together and can discuss work-related issues without breaching confidentiality. Christine Reed and Linda Cohen (1989) reviewed American legal claims pertaining to the contemporary anti-nepotistic rules, anti-discrimination statutes and United States constitution. The rules forbid spouses and other relatives to work at the same work place in public sector organisations, and the rules forbid public officials to appoint their own relatives to offices. Reed and Cohen conclude that judges usually uphold such anti-nepotistic rules unless they deem the rules too broad.

The United States federal bench itself is not completely immune from consanguinity, even though an anti-nepotistic statute pertaining to appointments of relatives made by federal judges was passed already in 1887 (Solimine 2002, 565). In 1990s, the effect of this statute was extended to cover a ban on consanguinity among judges serving on one federal court, and the evidence shows that only a few federal judges have been related (p. 573-4). Michael Solimine suggests that there is a general feeling of impropriety if related judges are seen to review or have control over each other in the judiciary

(pp. 577-8). Donn Kurtz (1997) adds a new angle to this in his book on *Kinship and Politics* (see also Kurtz 1995). Kurtz determined that 72 percent of the 107 United States Supreme Court justices (appointed by President and confirmed by Senate) serving between 1789 and 1988 had at least one relative in public office before, during or after the judge's term of service (p. 7). Kurtz concludes that a majority of the justices have been members of families prominent in the United States politics (p. 82). Further, Kurtz shows that almost 40 percent of the justices were related to other judges in the state and federal judiciary (p. 87). Kurtz was able to identify a common strategy in that one third of supreme court justices had ties to other political families by marriage of a close relative (marrying a sister or daughter from another political family or having their sister or daughter marry to one, see p. 92). Kurtz argues that the method to perpetuate in public office is by transferring intangible goods from one successful generation of politicians and justices to the next in the form of goodwill, voter loyalty, name recognition, contacts and family environment (p. 28).

Intergenerational transfers of jobs are not limited to the analysed justices and officials in the United States. In Italy, Vincenzo Scoppa (2009) has conducted a research into transfers of public sector jobs and concluded that having a father employed in the public sector increases the probability of offspring's employment in the sector by 44 percent on average. For Scoppa, employment in the public sector is not analogous to employment in private companies in that the public employment offers on average better benefits to the employee. From this Scoppa argues it is expected that parents will be more likely to help their offspring to acquire employment in public agencies. After Scoppa discovered the increased likelihood of offspring employment in the public sector, he concludes that it was contributed to by favouritism in hiring employees. The evidence of favouritism is supported, for example, by an observed drop in the employment rates for offsprings who move away from the region of their parents' occupancy (Scoppa 2009, 169). Further, the effect of fathers was not detectable for those who were most talented (best performing academically), but it was pronounced for those relatively lacking qualification. And, also the odds of employment for public officials' offspring were higher in southern Italy, which is theorised to display a higher degree of familial loyalties (Putnam, Leonardi and Nonetti 1993, 178: these are regions where 'force and family provide a primitive substitute for the civic community.'). In addition, Scoppa observed that an intergenerational occupational following of offspring was considerably higher in the public administration than in private industry. Even though analyses of conflicts between public duties and private interests, which Scoppa has performed, are uncommon, a favouritism in hiring kin has been recorded at various levels of the public administration in Europe. For example, Andrew MacMullen

(1999, 200) found appointment of kin as one of the reasons behind the collective resignation of Santer's European Union Commission in March 1999, albeit not the most prominent one.

Then at all levels of administration, civil servants can harm the public trust if they follow expedient ends, that is when a preference of kin emerges victorious from a conflict between a duty to one's own and duty to the public. Nepotism among judges and civil servants is a matter of public concern, yet it may be brought about by ordinary means such as occupational following.

7. Occupational Following in Politics

In the political science, the tendency to promote one's own ethnicity has been observed and developed by Tatu Vanhanen (1999) who argued that most ethnic conflicts can be attributed to 'ethnic nepotism' which for him is an extension of a preference of kin when kin is defined as a group sharing language, nationality or religion. This proclivity to prefer kin to non-kin is reported to be important in any social interaction, and it is commonly observed in human societies, Vanhanen claims. Vanhanen tests this hypothesis by analysing conflicts in 183 states from 1990 to 1996. He finds that divisions along ethnic lines explain most of the conflict of interests in societies where those ethnic divisions are the strongest. Vanhanen has been arguing in favour of an evolutionary explanation of political conflicts in that there is a conflict over scarce resources and one can expect strategies which promote one's genes to channel that conflict in human societies. For him, the political sphere is a place where such a struggle of genes over resources can take place (p. 57). Naturally for him then, the overarching biological need to preserve one's genes shapes conflicts between ethnicities, each of which seem to believe in a common biological or cultural progenitor, and they form an ethnic cleavage. Vanhanen's empirical analysis allowed him to conclude that the more a society is ethnically divided, the larger share of the political conflict is understood in terms of ethnic conflict in this society. In his later study, Vanhanen (2012) tested 176 countries to determine the share to which ethnic heterogeneity can explain occurrence of conflict of interest among ethnic groups and ethnic violence. Vanhanen concludes that ethnic heterogeneity remains the most powerful determinant of prevalence of ethnic conflict. In a novel take on this theme, Kevin Byrne and Eoin O'Malley (2012 and 2013) examined ethnic group as a means to transmit political values between generations in Ireland. They were able to correlate party affiliation declared by a politician with his familial ancestry belonging to one of the three waves of distinct ethnic settlements of Ireland. The research shows that contemporary party system in Ireland seems to originate much further back in history than what is usually assumed, and that political ideas developed by distinct ethnicities are persistent and transferred between generations.

The tendency to promote one's kin in political affairs, observed by Tatu Vanhanen, inspired a research by Joel Lieske (2011) who concludes that a share of differences among for example political participation and cohesion across the United States are attributable to cleavages in ethnic homogeneity. Nepotism can contribute to creating other cleavages, as is argued by Lawrence Kuznar and William Frederick (2007), in wealth and status distribution. In their mathematical modelling, Kuznar and Frederick propose that appointment of kin in political offices and the institution of inheritance (transfer of wealth) will over generations skew wealth and status distribution in society. When carried out over a long term, such nepotism contributes to a build up of resentment in the form of coalitions opposing the government and to aggravating social unrest. And, they find evidence in contemporary Saudi Arabia which seems to confirm their model: a small elite of 5,000 relatives of the royal family enjoy large incomes compared to the rest of the 24 million population (p. 35).

By examining familial backgrounds of members of the 1965 USA Congress, David Laband and Bernard Lentz (1985) observed that thirty percent of the congressmen were sons of former congressmen, state legislators or, for example, judges; this share was computed from those congressmen whose fathers' occupations were known to the researchers, and it fell to 10 percent when all members of the Congress were used as the total. The findings are significant because the 'structure of politics mitigates against occupational following' in the case of politicians (Laband and Lentz 1985, 395). They argue that this can be achieved, for example, by congressmen-fathers investing in their surname recognition which is utilised by their sons. Laband and Lentz show this by measuring an increase in costs which non-followers (non dynastic candidates) incur in elections. Laband and Lentz argue that protecting the name of the congressmen's dynasties can lead to an added accountability or increased responsiveness to the electorate because the families seem to plan for long term presence in the politics (pp. 411-2). A similar observation is made by George Crowley and Williams Reece (2013) who conclude in their study of United States governors between 1950 and 2005 that membership in a political dynasty increases incumbent accountability, and therefore it moderates the politician's theoretical exploitation of power (a dissonance between his acts and voters' wishes) in his last term in office. Overall, Laband and Lentz found that following a father's career occurs so frequently among congressmen that the politicians' rate is matched only by farmers and self-employed business owners. By examining the Congress of 1994 to 2006, Brian Feinstein (2010) confirmed that close relatives of other congressmen tend to enjoy advantages such as brand name which gives them a significant electoral boost of 0.72 to 7.90 percentage points over opponents who are unrelated to other congressmen. This advantage is distinctly different from the

incumbency advantage, according to Feinstein who estimated the likelihood to win elections for dynastic candidates compared to first generation candidates to range between 18 and 31 percent (p. 582) due to their dynastic status. Further, Feinstein determined that voters show an irrational but more favourable emotional attachment for names of dynastic politicians and candidates (pp. 583-5). Feinstein did not however confirm a correlation between dynastic status and better fundraising or longer experience in politics (p. 588). Notably, Feinstein observes a high degree of immobility of dynastic candidates who at large enter elections in the states where their relatives have held political power, unlike the rest of the politicians in the USA (p. 591). This adds, according to Feinstein, to the suggestion that the regional name recognition is an important contributive factor in electoral success of dynastic candidates.

Dal Bó, Dal Bó and Snyder (2009) attempted to determine whether American political dynasties present in the United States Congress tend to reflect the ability to succeed in politics as a variant of occupational following or whether the dynasties seem to hold a firmer grip on power by employing sinister means and exploiting shortcomings of the political system. They show that there is no additional 'talent' or inherited vocation to public service being transferred in political dynasties; it is rather an effect of holding political power longer which increases offspring's probability of being elected to office and therefore to perpetuate the dynasty without any consideration to political ability, innate talent, or family traits. For example, by using the regression analysis they found that relatives of legislators who won a first re-election by a narrow margin have a better chance to enter Congress in the future than relatives of congressmen who lost their first re-election by a narrow margin (p. 116). The close call between a re-election and a lost election is assumed to be randomly distributed, and it shows no regard to abilities inheritable in families. This effect is controlled by the re-election rate measured in fellow party members in the same state and year. Overall, if a congressman holds power for a second term it doubles the probability that his relative will enter Congress in the future. They also find that occupational prevalence in Congress is extremely high compared to other occupations. Dal Bó, Dal Bó and Snyder review historical evidence and show that the proportion of related congressmen has been decreasing from 11 percent originally to 7 percent after 1966.

The existence of political dynasties in a liberal democracy has not escaped earlier researchers' attention. For example Donn Kurtz (1989) published evidence showing that 27 percent of 785 officials had at least one relative present in local and state politics in 1983 Louisiana. Kurtz identified 182 families which supplied those interconnected state officials (p. 341). These families created kinship networks (pp. 344 ff.). In addition, Kurtz (2001) has identified political families

present among forty-five USA presidents, prime ministers of Japan, and presidents of Mexico serving between 1946 and 2001; there were two-thirds of these chief executives who had been preceded by at least another office-holding close relative which was similar in all three countries. Kurtz picked these three countries because, in his view, they represented three distinct political cultures while displaying features of liberal democratic systems. Hilde Liefferinge, Carl Devos and Kristof Steyvers (2012) observed a similar boost in the 2003 and 2007 Belgian federal election provided to Flemish candidates by a parent who holds a political office. These candidates start their political career at an earlier age than candidates who are not related to office-holders. Liefferinge, Devos and Steyvers however do not observe that this effect would boosting the candidate's chances of attaining offices of power. In Belgium, it is the political parties which are argued to act as 'amplifiers' of the offspring candidate's political name. For an earlier analysis of familial affiliations of 379 Belgian Mayors serving in 2003, see Hilde Liefferinge and Kristof Steyvers (2009) as the study observed a similar effect.

In an effort to determine whether the likelihood of political success increased by kinship survives a regime change, or not, Carola Lipp (2005) examines historical data pertaining to kinship ties and local elections in the German city of Esslingen between 1800 to 1850. She finds that the boost which membership in a politically active family gives to election chances survived a systemic shift from an autocratic regime (co-optation of patrician relatives to offices of power) to an electoral system in which elections occur as often as once a year. Two-thirds of Esslingen representatives serving between 1817 and 1850 had close familial ties, despite frequent elections and state regulations against some forms of kinship ties. And, the majority of those with no kinship ties served only a single term, unlike the deputies with kinship affinity who served usually longer (pp. 354-5); which is a theme observed in the United States Congress until the present day.

Political patterns similar to those in Esslinger have been observed in a contemporary setting among the Hutterites in Canada. The Hutterites constituted a topic of sociological research of nepotism, in 1960s and 70s (for example see Clark 1977, Clark 1978, and Boldt 1978). A Hutterite community, dubbed a colony, is always comprised of several families; and it totals between 40 to 180 people (Clark 1977, 296). It is closely knit and features a homogeneous religious and cultural identity. Most of its leadership position are filled by election (ibid.). Peter Clark (1977) hypothesised that nepotistic appointments to leadership positions happen more frequently in those Hutterite communities in which jobs are scarce. Despite heterogeneity and common ownership in all colonies, Clark argues, families create political fractions and coalitions, and they vote their kin into leadership; a son of an executive in all Hutterite colonies will have a significantly higher chance to attain a leadership

position than a son of a non-executive (p. 299). This tendency is more pronounced in poor colonies with a large surplus of labour. Out of 42 observed colonies, the most striking disparity of opportunity happened in the four poorest colonies. Edward Boldt (1978) suggests to explain the discrepancy as instances of occupational following (p. 395), but he admits that a family can act as a political unit among the Hutterites (p. 394) while Hutterite colonies are not 'communities of saints' always concerned with equality (p. 395). Clark (1978, 397) further suggests that the more a colony engages in nepotism the worse managed it becomes, and Hutterites seem to be aware of this as Clark quotes a general Hutterite moral disposition which disfavours nepotism (p. 398). Apart of occupational following and nepotistic tendencies, Clark (1977) also maintains that there are exogenous reasons for the difference of wealth among Hutterite colonies.

In the supposedly least corrupt environment of Denmark, Mario Amore and Morten Bennedsen (2013) evaluate connections of businesses to local political representation. There, they document frequent kinship ties between politicians and business owners, pointing to a perpetuation which might have been originally seen in more autocratic regimes, like in Esslingen, that is in societies closely knit by kin and trade. Amore and Bennedsen observed that doubling political power (as in doubling number of votes cast per politician) increased performance of linked companies twice, on average between 2001 and 2009. This dynamic seems to provide an added incentive to occupational following among politicians. And, it clearly shows the more sinister face of nepotism in the form of a conflict of interests when public funds are diverted to procure goods and services from companies managed by the politician's kin.

Therefore, political nepotism is more than occupational following *by other means*. What passes as ordinary among civil servants and to an extend among judges who are not their own bosses, cannot pass as everyday business among politicians. The quest is now to discover who will *guard the guardians*, that is who censors the mores of the politician of liberal democracy.

8. Political Nepotism as Altruism

In this dissertation, the ultimate level of analysing nepotism is political. This analysis inherits findings from anthropology in that humans are naturally prone to preferring their own kin, that there are degrees of such favouritism depending on the distance the patron feels or reasons himself to be from the benefactor, and that this tendency to favouring kin is subtle. From the economic science, this analysis draws on the finding which shows that a preference to family is a robust competitive advantage and adds to wealth. And at the level of morals, nepotism is one of many expressions of altruism which finds other demonstrations, such as child rearing and parental love.

Clearly, nepotism as an altruistic act is not an expression of self-interest or egoism but rather to the contrary. The patron promotes interests of others, yet he does so selectively. In moral terms, what makes nepotism an altruistic act is the sacrifice of patron's due to those who are left out of it (see also the concepts of 'parental partiality' and 'filial obligation' in Brighouse and Swift 2014, 175). In political nepotism, the patron promotes an interest inclusive of some at the cost of his political integrity which is expected to be exclusive of none. A preference to kin presents itself in three forms in the political sphere encompassed by the contemporary state. The political nepotism manifests in an occupational following of politicians and public officials, in favouritism to kin when officials procure goods and services on behalf of the public from their relatives, and in an appointment of relatives to administrative positions. Other often cited political emanations of it, such as 'ethnic nepotism,' patriotism or nationalism, are here left to be explained by a documented tendency of humans to feel compassionate towards their group of affiliation.

Researchers Chaim Fershtman, Uri Gneezy and Frank Verboven (2005) draw a conceptual difference between nepotism and discrimination. In their comparison of interactions between the Flemish and Walloons of Belgium, and secular and ultra-orthodox Jews of Israel, they were able to draw such a distinction. The Flemish and the Walloons were found to treat members of their societies as if they were anonymous individuals. But the Flemish and Walloons opposed each other, they were found to discriminate against each other's ethnicity ('discrimination against'). On the other hand, religious Jews based their biased treatment of anyone else, including secular Jews, on their affinity with other identified orthodox Jews but not with anonymous or non-orthodox others ('discrimination in favour'). When such an in-group favouritism occurs, 'anonymity rules,' which are designed to create impartiality by abolishing information about group affiliation (p. 372), fail. In the light of these observations, such anonymity rules are effective against discrimination only in the case when the discrimination is based on knowledge of one's affiliation to the group which is being discriminated against. Once the knowledge of one's group affiliation is the motivation for discrimination of others in favour of one's own group, anonymity rules are ineffective.

Anonymity rules are even theorised to hurt the economic performance of such nepotism-riddled systems. Fershtman, Gneezy and Verboven propose to consider a situation where mutual trust is required to increase the payoff in a market situation. Anonymity rules can lead to a decrease of an overall trust because actors do not know group affiliations of others and they cannot discriminate in favour of their group (i.e. nepotism) when everyone is treated by everyone as an anonymous individual. Andre Hofmeyr and Justine Burns (2012) ran a similar experiment in South Africa, determining the level of trust between black, coloured (a South African term for people of mixed

origin) and white high school students. They observed the black students significantly least trustful towards other blacks and anonymous benefactors while displaying most trust to white and coloured benefactors of the experiment (pp. 357-8). Hofmeyer and Burns dub this behaviour as 'out-group nepotism' as it shows the third theoretical combination springing form the original experimental design of Fershtman, Gneezy and Verboven (2005). This third outcome, when an anonymity rule prevents knowledge of benefactor's identity, would also lead to a decrease of overall trust and payoff, in the theorised market scenario. In the context of this dissertation, however 'out-group nepotism,' i.e. favouritism of other groups but one's own, is bordering conceptually with a preference shown to kin. The authors argue that the 'out-group nepotism' recorded in the black students can be for example an expression of attitudes towards a heterogenous category, that is the 'black' category may cover a wider range of competing identifies which black students are sensitive to and against which they identify in an in-group nepotistic fashion (pp. 371-2).

There is an additional dynamic between feelings of loyalty, equality and favouritism. Cristina Zogmaister et al. (2008) experimentally confirms that when equality is primed in individuals, their favouritism displayed to their own group decreases, but when loyalty is primed, the in-group favouritism increases. The authors argue that activating equality may lead to lessening of discrimination in society. They also indicate that though the in-group favouritism is generally strong, it is not present at its maximum and can be exasperated (p. 506). That nepotism is entangled in a web of morally charged concepts becomes obvious.

In a philosophical analysis of moral obligations as a substantial consequence to adjudicating one's due to one's family, Holly Smith (1997) examined a contradiction between an indiscriminately high moral aptitude perceived to be present in acts of promising and some promises which are at the same time 'nefarious.' Smith claims that keeping promises is seen as a hallmark of individual moral behaviour in the European and American philosophy of morality which has shifted the promise from an externally imposed duty to a self-consciously and freely accepted denominator of morality. If then, Smith asks, keeping promises is meritorious, why then is keeping those expedient promises which result in appointment of family also seen as moral? Smith notes that it has been observed before that a promise can turn a certain wrong to a moral right, like in the case when instead of providing resources to a meritorious cause, one provides for an undeserving person because he had promised to do so. What makes a manipulation by promise 'abusive' for Smith is when a person converts unfair circumstances into a moral obligation for an immoral end such as nepotism. For Smith, this capacity of moral systems to declare certain acts moral by the virtue of promising them, is a shortcoming (pp. 155-6) and one which resembles moral relativism. Yet, there are limits to the

capacity of converting immoral acts to moral by promising, for Smith. For example, a conventional murder or theft cannot be usually justified by a promise. Smith argues that the amount of harm produced by the promise has the capacity to outweigh the judgement of the outcome's merit (p. 157). Or the individual may not be permitted to make a certain promise, having to act within a boundary permitting of some but not any morally binding promises. As a solution, Smith suggests to take into account acts which precede promising ('making the promise') and acts which follow its keeping ('keeping the promise') when making the moral justification of a particular promise (p. 166). In the case of nepotism (preferring one's relative when deciding about appointment) and promising (which turns the case of nepotism into a moral obligation), Smith notices that the individual is morally required (by an act of promising) to act immorally (promote the relative, see p. 174). As a solution to this class of problems, Smith proposes instead to disregard the moral value of keeping a promise while trying to avoid solely a demerit entailed in breaking this promise, in assessing the morality of a case (p. 175, see also Earl Conee (2000, 417-8) and her argued tacit release from a promise). In terms of a promise which sanctions nepotism, Smith's classical solution would offer the patron not to uphold it unless the breaking of it produces excessive harm.

Political nepotism can be understood as a moral obligation which is brought about by the way of occupational following or sanctified in moral terms by promising that which is due to the politician's kin. It emanates from altruism towards kin, builds on in-group sentiments, and it resists anonymity rules. It results in discrimination. Yet, an examination of its complexity is not complete without probing the other part of its core conflict, one brought about by the moral obligation which is due to the public, in liberal democracy.

Nepotistic appointments might pass for a social asset created in networks under the heading of 'social capital,' which is a concept coined in 1916 (Putnam 2002, 4) and re-invented in sociology and political science, were it not for the remit of social capital summed by Nan Lin (1999). The social capital is an 'investment in social relations with expected returns' (Lin 1999, 30). Like the social capital, nepotism may seem to facilitate information, exert influence and provide social credentials to individuals (p. 31). But preference to kin is limited to kin, unlike the building of social networks which is observed to bridge groups (p. 34). Political nepotism is instrumental in the same way in which the social capital enhances prospects of those who wield it for example in obtaining better jobs (p. 32). And the social capital is even seen as a means to maintain dominance of the nobility or dominant elite defined by familial ties (p. 33), and in this sense it is used to political ends to obtain 'political returns' (p. 40). But Lin argues that the social capital is distinct from other collective assets, like culture, norms and trust (pp. 33-4), which is however the domain of altruism and political

nepotism. Lin states that family ties may seem to contribute to the social capital, for example, as a point of closure when a privileged class is defined by family membership, but Lin argues that this requirement is unnecessary for the social capital (p. 34) thus releasing political nepotism from the conceptual constraints of the social capital. According to Lin, 'family ties' are not causes of social capital, at best, they factor in a social network contribution to one's social capital (p. 35). Also for Robert Putnam, in his survey of Italian civic traditions (Robert Putnam, Robert Leonardi, and Raffaella Nonetti 1993), kinship ties, though strong, are unimportant for building civic engagement which encompasses large parts of a community (p. 175). Putnam maintains that unlike familial ties, civic engagements build the social capital of a community, in Italy. For Robert Putnam and Kristin Goss, the social capital is expressed in political science as values which sustain the democratic regime through an active engagement in communal affairs (see the introduction to Putnam 2002). The social capital in political sciences encapsulates the norms of reciprocity and their power in creating community (p. 8), and in this sense a network of 'extended family' can contribute to but also can harm a community's social capital. The 'good' and 'bad' effects of kin are also discussed in a volume edited by Christiaan Grootaert and Thierry van Bastelaer (2002). One of the volume contributors argues that strong family and ethnic ties are observed in societies lacking in cooperative norms and trust (p. 45). Overall, political nepotism can substitute social capital in terms of altruism which it generates but to a limited extent since it is restricted to kin.

After reviewing data from the *World Values Survey Association* (www.worldvaluessurvey.org), Jong-Sung You (2005) argues that fairness matters more than similarity because it contributes more to trust in other people in general than homogeneity. The general trust is enhanced by procedural rules of government which are considered fair, fair administration of law and a relatively symmetrical income distribution. Such a conclusion seems consistent with findings on social capital which is argued to bridge personal and ethnic differences and to create trust of a civic order. In societies, where there is a strong undercurrent of civic virtues, kinship ties play a less important role in creating a general trust. Jong-Sung You argues that fairness (defined by John Rawls (1999) as distributive, procedural and formal justice) creates more trust between strangers. Jong-Sung You claims that transaction costs are relatively lower in an environment where trust between people is large. Jong-Sung You provides evidence which shows that an increase in fairness correlates with an improvement in the economic well-being. He demonstrates this on income skewness: in countries where income distribution is skewed, most people will fall to the 'poor' category, then the majority will be similar in this regard and therefore such a society is hypothesised to show a greater trust. In countries where distribution follows the less-skewed bell curve better, most people will feel that the

distribution is fair and therefore they will be more trustworthy towards others in general, if it is fairness which determines trust and not homogeneity (p. 13 and 25), for You.

Then, political nepotism in liberal democracy seems a special case of altruism. Preference of kin is argued to emerge for reasons of genetic homogeneity, but then it is argued to diminish in the face of fairness, among a homogeneous public.

9. Conflict of Doctrines

The anthropological evidence gathered here shows that humans like many other species (Silk 2009) tend to behave altruistically towards individuals with whom they are genetically similar (Rushton, Russell and Wells 1984). In order to curtail free-driving, people are also inclined to show altruism towards and demand altruism from unrelated persons for reasons of similarity, reciprocity, mutual regard or equality (Boehm 1999, Jones 2000). These motivations lead to conflicting actions which are expressed in contemporary politics as a conflict of loyalties when a politician prefers his kin before the public interest or when he establishes a political dynasty through a transfer of knowledge and opportunities which are available exclusively to him. It is not immediately clear where there is the borderline between occupational following and nepotism, in politics. Nepotism is shown to be a strong drive of political action in countries on both tails of global corruption ranks. It is prevalent in Denmark (Amore and Bennedsen 2013) as it is in Saudi Arabia (Kuznar and Frederick 2007). Political dynasties are documented in various liberal democracies (Kurtz 2001) and at all levels of government (Kurtz 1995, MacMullen 1999, and Dal Bó, Dal Bó and Snyder 2009). Families can penetrate the American judiciary (Kurtz 1997) and Italian public administration (Scoppa 2007). They elude elections (Lipp 2005, Clark 1977) and evade perceptions of corruption (Amore and Bennedsen 2013). The voters may even reward them (Feinstein 2010); and voters may found dynasties more accountable than non-dynastic candidates (Laband and Lentz 1985). But the presence of family in politics is not always a case of a simple occupational following as it borders with favouritism impeding fairness, like it is the case among medical doctors (Lentz and Laband 1989), farmers (Singell and Thornton 1997), NASCAR drivers (Groothuis and Groothuis 2007) or in all sorts of family businesses spanning China (Wong 1985) and America (Spranger et al. 2012). If there is a justification for anti-nepotistic sentiments in politics, then it is rational to reject dynasties taking over political power. And then, one is right to fear nepotism impeding transparency and numbing of systemic checks as branches of power are quietly knitted back to one imperium through an insidious network of kin. In short, this adjudication pertains to determining whether the liberal democracy is a family business, or not.

Nepotism may have emerged within the same evolutionary process as altruism. Now, nepotistic behaviour aids to generating wealth (Goldberg 1982); and nepotism is common in the economy (Spranger et al. 2012) when it enhances competitiveness of business organisations (Singell and Thornton 1997). It is not constrained to the idealised 'family farm' by far, but it is present even among the Swedish academia when competing for funding (Wennerås and Wold 1997; Sandström and Hällsten 2008) or among American philosophers when it shows in their preference to quote people of their own ethnicity, in academic papers (Greenwald and Schuh 1994), which are tied to prestige and funding; or among the Italian academia when new professors are appointed (Durante, Labartino and Perotti 2011; Allesina 2011 and 2012). Theoretically, nepotism is a rational extension of the tendency to increase one's 'inclusive fitness,' that is to provide altruistic support to individuals who show cues of a shared genome (Rushton, Russell and Wells 1984). Altruism, and therefore nepotism, is argued to emerge as an effective method which alleviates free-riding; and in this role it can become a social good, provide added benefits which further incentivise cooperation, and thus it can enter the realm of 'moral sentiments' which are sanctioned, socially (Jones 2000). People class other people who are due their altruism via cues and proxies (Rushton 2009), one of which can for example be even a surname (Kantha 1991; Neyer and Lang 2003; Oates and Wilson 2002). And the relative strength of kinship association is argued to be the yardstick of moral adjudications (Hegtvedt 2005).

A duty to one's kin can conflict with a duty due to the public, in public administration (Aylesworth 1908; Scoppa 2009; MacMullen 1999). The conflict is managed by anti-nepotistic statues (White 2000), and it concerns also the judiciary (Solimine 2002). Researchers have shown that there is a limit to what the statutory law can achieve: there have been numerous political dynasties perpetuating in administration, judiciary and politics (Kurtz 1989; Kurtz 1997; Kurtz 2001), at the same time. This political nepotism is often understood as an instance of occupational following, in a liberal democracy. But political nepotism is not limited to increasing of statistical chance of a dynastic follower to succeed in elections; it underlies ethnic conflicts between (Vanhanen 1999) and within (Lieske 2011; Byrne and O'Malley 2012 and 2013) nations. The cleavages in wealth and status distribution, which nepotism generates, can also spill over to the political sphere (Kuznar and Frederick 2007). But it is the political dynasties which are the most immediate emanation of nepotism, in the present society. They show in the U. S. Congress (Laband and Lentz 1985; Feinstein 2010), among U. S. governors (Crowley and Reece 2013). Political families were recorded to benefit political career in Belgium (Liefferinge, Devos and Steyvers 2012), and also they were found prominent in nineteen century Germany (Lipp 2005) and in the twentieth century colonies of

Hutterites in Canada (Clark 1977). Families of politicians seem to divert substantial economic gain even in Denmark (Amore and Bennedsen 2013), which is prided for low ratings in corruption surveys. Yet, the perpetuation of kin among political elites cannot be attributed to some innate *pro-political* disposition inherited in political dynasties (Dal Bó, Dal Bó and Snyder 2009); it is rather the effect of a tendency to conserve class and elite divisions which are present in the modern society.

In this dissertation, political nepotism is considered to be a behaviour which results in providing benefits to politicians' kin via a transfer of knowledge and assets to aid occupational following, favouritism to kin in procuring goods and services on behalf of the public and in appointments of relatives to positions of power. Political nepotism is elusive in that it shares with other forms of in-group favouritism a resistance to anonymity rules. Anonymity rules are usually understood to prevent favouritism, but it is shown that they can work only in such settings when patrons treat their own kin as they would treat anonymous benefactors (Fershtman, Gneezy and Verboven 2005; Hofmeyr and Burns 2012). By definition, this is hardly plausible as nepotistic patrons are shown to discriminate *everyone* who does not display cues which related benefactors would, under an imposition of anonymity. From this it follows that there is a complex discharge between loyalty, equality and favouritism (Zogmaister 2008), at play. Political nepotism even shares some positive features with the concept of social capital (Lin 1999) in that it contributes to reciprocity and thus to social cohesion.

Altruism may have emerged from an evolutionary dynamic of the human species. It is an integral part of society. Altruism contributes to feelings of belonging to a group and often this feeling finds an expression in ethnicity, kin and family. But then altruism requires trust, and Jong-Sun You (2005) finds that when fairness increases then ethnicity loses significance in its ability to generate trust shown to strangers, in many societies worldwide. This fair altruism then has a political dynamic because a trust towards strangers requires the trust to ethnicity, kin or family to diminish. The society adds to this blend, and as many anthropologists have demonstrated there are social pressures which preserve altruism by imposing of moral norms, of a particular moral sense. For some, these norms contribute to preference shown to family and to performing nepotistic acts, for reasons of altruism; for others, the moral sense requires fairness in income distribution, political engagement and administration of law also done for reasons of altruism.

David Hume (2000) has analysed conflicting moral judgements concerning a single phenomenon, object or act. He proposed that a property of morality is projected from humans to things by moral judgements, and he described feelings of sympathy as one method by which individual moral

convictions can be exchanged between people (pp. 368 and 371). Hume's approach hints at a psychological struggle within an individual pertaining to his attachments of variable power, the strength of which depends on one's similarity to significant others (Rawls 2000, 87). The political problem is then one in which it is individuals who are on collision courses due to their moral convictions, and when these conflicts are acted out, in the political arena. At the theoretical level, this dissertation will attempt to show that if illiberal individual attachments (such as filial piety) are common in societies, which however provide liberty for its members, then theoretical models, which explain these regimes by referring solely to a shared liberal motivation, need to account for this. These legacy models might help explain solutions to political conflicts by repressing illiberal moral doctrines or squeezing them out from the political to the private sphere. But, this lack of regard seems to be a draconic prescription which decreases the predictive power of such models. This dissertation, then, will attempt to reconnect an internal conflict between varied attachments within a single person, as observed by David Hume, with a political struggle over resources between many people.

Frequent kin-based relationships among political elites constitute the basis for political nepotism. It is not a simple matter to establish whether any given politician would or could always promote his or her kin, but a high frequency of relatives among political office holders indicates a structural risk to liberal democracy. The risk is that when a loyalty to kin results in preferential treatment, it becomes incompatible with liberal moral doctrines such as equal access to positions of power. The loyalty to kin poses other kinds of structural risks to democratic regimes which rely on the principle of division of power, for example when mutually loyal relatives occupy positions of power which the system assumes are occupied by political actors who are in competition with one another.

For all this evidence, there is a compelling reason to rejuvenate political nepotism as a proper subject of research, in political science. When political philosophy understands it as a conflict of moral doctrines enacted in the political sphere, a scientific examination of it may point to practical solutions which are in the public interest. And those solutions will be found to rest with impartiality.

CHAPTER II. JOHN RAWLS'S THEORY OF JUSTICE

In principle, Rawls's theory of justice does not expect nepotism (preference of kin) to occur in the model liberal political system because it is rational to refuse a dynastic membership as the condition by which to select occupants of offices of power. The reason why is that being born to any family is a contingency; it is not a matter of one's free will. When the world is such that by accident, people are born to families with a little claim to power and resources to pass on to the offspring, it is rational not to hold the offspring accountable for such an accident. Instead, it is rational to choose among candidates for offices of power in such a way as to protect the liberty of the least advantaged, to give them a fair chance. Doing this is rational even when those candidates' capabilities are below an expedient optimum as long as liberty is given precedence over economy. Doing this is fair and rational, but it is not necessarily most useful, profitable nor beneficial, economically. It is only fair when a family affiliation does not increase nor decrease the likelihood of gaining political power. And, this is John Rawls at his best.

10. Justice and Nepotism

Political nepotism is linked to *A Theory of Justice* by John Rawls (1999). Not that Rawls would spend much time expounding on nepotism. Rather in the strongest terms and flatly, his theory denies the legitimacy of preference to kin in a liberal democracy. And, while the theory insists on nepotism to disappear under the ideal circumstances, its causes are thought to completely abandon the public domain and to banish themselves to the non-political, as any legacy or obsolete moral doctrine would. Why then include favouritism, unfair preference, special treatment, prejudice, bias, 'keeping it in the family,' and jobs for the boys in the theory? Nepotism embodies everything fairness is not. As simple as that.

But, this chapter purposes to present a reading of John Rawls which is more delicate than this. One which comprehends the theory's misgivings, and one ambitious to offer to improve the theory. There is no denying that nepotism, when understood as a high degree of consanguinity among political elites, operates by means which are incompatible with a political system prided for democratic representation and indiscriminate liberty. Still, if nepotism is present in a political system which continues to generate social goods characteristic for the liberal democracy, the theory must be questioned when it takes nepotism to embody an enemy of the state. There are two categorical explanations which offer themselves: either there is no nepotism or the theory errs. A third, more plausible account requires an emollient reading of the theory, an empirical observation of nepotism and a careful weaving facts in and out of conjectures when working the theory. This dissertation is keen to salve the theory.

The theoretical background within which to analyse nepotism is John Rawls's theory of justice as fairness. There are only a few theories to choose from and which match Rawls's degree of conciseness, among contemporary political science theories. For example, Ian Shapiro (2003) provides a rundown of such frameworks. He groups them under the headings of utilitarianism, Marxism, social contract, anti-enlightenment, democracy and some combinations thereof. As there is no unified political science theory, it is the theoretician's call to select the most relevant one, in the circumstances. In this examination, nepotism is an object of perceptions, an object which exhibits itself in the power structure of a society. The political nepotism is then argued to be a behaviour motivated by a moral sense. Rawls's social contract attempts to establish that there is a moral minimum (a *thin* theory of good, in Rawls's terms) which is a reasonable requirement for the political body to share. This moral minimum of fairness challenges the moral sense behind nepotism, and such a difficulty adds attraction to this examination. For these reasons, nepotism will be examined within the framework of a social contract theory.

11. Revised Edition

In this chapter and next, the material under review is a set originating with John Rawls and his critics. The version of Rawls's *Theory of Justice* considered here is the 1999 English language edition; this is apparently the latest one revised by Rawls. When a reference to a section is made by the section sign §, it is a reference made to this revised edition. The conversion table between the first (1971) and last (1999) editions of *A Theory of Justice* is available from Rawls (1999, 517-9). Further, I do not wish to challenge Rawls's claim (1999, xi) that his 1999 revised edition contains exactly the same outlines and doctrines as his 1971 edition. The version of Rawls's *Justice as Fairness* considered here is the one published in 2001 as a restatement edited by Erin Kelly. My overview and reading of Rawls's theory is offered in this chapter while a critical reading of others and my synthesis is given next as an *Analysis and Synthesis*.

12. Introduction to the Theory

John Rawls has formulated his theory to better explain causality behind the production of social goods by political institutions while appealing to a shared motivation to cooperate. The theory is ranked among others in the social contract vein due to a single attribute which the theory requires to be shared among individual moral outlooks. While individuals need not share any identical reason for cooperation, it is necessary to share a capacity to adhere to a cooperation, among everyone. If principles of a cooperation can be freely and rationally deliberated as in a written or spoken agreement, they provide a shared moral justification of this social cooperation, hence the

label of *social contract*. Notably, none of individual reasons to cooperation can be expediency which is the pursuit of self-interest at all costs; Rawls terms a free-riding proponent of expediency as an 'egoist' (Rawls 1999, 12 and 497). The framework of the theory is then such that Rawls creates a kernel of impartiality based on a required moral minimum. Into it, he adds self-interested and rational actors endowed with free will. These actors then find it rational to spawn two principles of fair cooperation and several priority rules to solve conflicts of the two principles, in addition to the shared capacity to cooperate. In this expanded set, Rawls allows individual contingencies, and then he constructs political institutions to remedy undeserved contingencies in order to maximise the liberty of all to pursue their own aspirations. For Rawls, liberty is living according to systems of reasonable and rational aims ('life plans') as fully as possible. That is, Rawls's aim is a theory explaining a fair distribution of social goods which maximise this liberty.

Liberty is the reason for existence of a state, a purpose identified behind any cooperation among humans. But *purpose* is perhaps too strong a word as the theory does not need to presuppose the state to be created for any reason. In the theory, the state is perhaps better understood to be like a language or family, as a social artefact, key to human conduct but without a single designer or any designer's reason. In the case of state, liberty has been read-in, easily, but this purpose is the posterior product of cooperation. A purpose to a state which is liberty is rather an expression used to justify a state of affairs without assuming any direction of the concrete historical causal chain which has brought about the liberal state's existence and which might be accidental and internally inconsistent, in the view of liberty. This is in line with John Rawls's own words (1999, 26) to the effect that his theory determines the right without the right necessarily maximising the good. Here, my reading diverts from relegating Rawls's theory to a prescriptive endeavour that is from understanding the theory as being an attempt first to determine an ideal of good, and second, from it to infer a set of rules which are right and which produce the good. Such a narrow view would miss a feedback loop which I trace in Rawls's theory in the form of an informed individual's reflection on principles of justice. The narrow view would put too much significance on a kind of designer's purpose of state's existence; and this would be untenable.

John Rawls has distinguished his theory from principles of utilitarianism. Jeremy Bentham's principle of utility may be appealing after its expediency is curtailed by liberal rights or facts of human psychology. But, Rawls argues it cannot serve as a reasonable indicator of human conduct because utility needs to rank human desires to redistribute resources and these ranks cannot be created by the virtue of incompatibility of some legitimate desires. Rawls proves John Stuart Mill wrong when Mill claimed that a man versed in two goods could decide which was better for

everyone (Mill 1879, loc. 141-3). The man can determine the good only for himself. Rawls's theory put an end to a universal rank of values and focused on maximising the space and resources needed for an individual to pursue anything which is reasonable within this field of opportunity, on maximising liberty. The theory does not need to contain a full account of individual happiness, unlike utilitarianism. Where utilitarianism seeks justifications of a common rank of pleasures, Rawls explains there are various individual motivations. Where utilitarianism redistributes resources, Rawls maximises production of social goods. And where utilitarianism aggregates individual utility to account for value, Rawls appreciates for example reciprocity. In his theory, Rawls examines a shared motivation aimed at producing social goods by the method of adjusting means of cooperation in a society.

13. Justice as Fairness

John Rawls is adamant that his theory is an extension of the theory of rational choice (1999, 15-6) and that principles of justice are the object of an original deliberation leading to a theoretical contract rather than an actual contract entered into by real people (p. 10). On the rational choice theory, Rawls predicates that should a group of model rational actors deliberate on principles of their cooperation, they agree first that while being free and rational they care most to further their own interests. Second, that in this, rational actors are equal. And third, that therefore equality is the foundation of rational actors' association. Rational actors require a fair arrangement, hence justice as fairness. Further, Rawls recognises that cooperation is likely to produce more than an aggregate of isolated individuals' products. He acknowledges that there is no moral justification for any distribution of such surplus of benefits generated through cooperation but that justification which is a result of a rational deliberation seeking a fair distribution. This rational deliberation, this fair determination of justice, is the essence of Rawls's *original position* (Rawls 1999, chapter iii) which is devised so that such a deliberation can take place in it.

The deliberation takes place under conditions which ensure fairness. From free rational actors, fairness requires impartiality, neutrality and honesty in addition to self-interest and equal concern. This experimental setup is far from anything one might encounter in the real world, however it becomes the parsimonious device to extract the formula behind justice as fairness. Impartiality is brought about into the deliberation by a 'veil of ignorance' (Rawls 1999, §24) which is a narrative device alluding to ignorance of personal contingencies of wealth, misfortune or abilities. Rawls assumes that these contingencies lead inevitably to favouritism, in rational actors. Neutrality is assured by the 'symmetry' of every actor's relation to each other as moral persons who are equally

capable of a sense of justice (p. 11). And, honesty is required to relegate the free-rider problem to a secondary level of deliberation, which is a reflective equilibrium, after the original deliberation is concluded. This formula then is the scheme for producing principles of justice which may according to Rawls become acceptable to real people who are capable of pursuing rational aims and willing to understand why and how to cooperate and to divide the benefits of cooperation, in a fair manner. This then allows real people to claim that they would agree to the principles of justice and to the deduced rules to constitute institutions as if they were rational actors deliberating the terms of such a cooperation under fair conditions. In this, the original deliberation turns into a method of subscription to principles or into a social draft rather than a social contract. The capacity to convince is determined solely by the soundness of its argument.

Then, John Rawls introduces the notion of a 'well-ordered society' which serves as a blueprint of an ideal society built upon the principles of justice and rules deduced from them. Rawls (1999, 316-7 and 431) knows of no ideal political interaction equivalent for example to the rationality of a market actor who by pursuing his self-interest generates new wealth in interaction with others, in a perfect model of ideal economic configuration. The market actor pursues his interest and contributes to the optimal performance of the system without having to cast a judgement on or even ever knowing of principles of efficient economy. But, while a pursuit of self-interest may be a means to achieve the perfect market, there is no equivalent principle of social arrangement, no perfect institution, the establishment of which automatically leads to a just society, Rawls argues. The well-ordered society and its institutions are therefore not a model of a perfect arrangement to be imposed over the social reality. Rules cannot be taken as given nor understood as always followed, Rawls writes, when all patterns of behaviour dependent for their meaning on an environment shaped by perceptions of justice. Rather, the 'well-ordered society' is a self-contained structure of a different type. It encapsulates some of the complex moral justifications observed in human associations. This again is another point of my departure from seeing Rawls's system as prescriptive. Although, the well-ordered society is used in the thought process of convincing one of the principles of justice, there seems nothing in it which requires a leap of faith in propositions which is associated with prescription. Even in the well-ordered society with a just constitution, Rawls argues, there is a need for citizens and legislators to adopt a 'wider view' and exercise 'good judgement' in applying the principles of justice.

The first test which Rawls lays out is the question whether Jeremy Bentham's principle of maximising utility of the greatest number would be appealing to rational actors, in their original deliberation. Rawls argues that actors operating under the condition of equality reject utility

because it requires lessening prospects of one for the purpose of raising prospects of another without providing any credible reason to do so to the one who is to agree to have his prospects reduced. He can agree to endure the loss but only if he acts on lasting benevolent impulses (p. 13). An algebraic formula of utility aggregation can hardly evoke any such warm feelings of solidarity, Rawls observes. In this, a pursuit of utility is moot because it is lacking a convincing reason to be accepted. Utility thus seems too trivial a principle to firmly establish the lasting cooperation for mutual advantage even without deliberating further and dealing with the inevitable complication of determining utility in a complex society or with its conceptual shortcoming of insisting on a single rank of pleasures universal to all.

Should then rational actors want to create principles of justice to ensure cooperation to their mutual advantage, Rawls argues, they might agree on a principle which allots equal basic rights and duties to all. Rawls calls it the 'first principle of justice.' In it, the rational actors acknowledge their equality, their equal claim to liberty and social goods whatever they are. Then, the actors can agree on the 'second principle of justice' which mitigates undeserved misfortunes because rational actors accept that there is no demerit in natural contingencies of individuals nor any merit in distributions of social goods other than the merit agreed upon by them in the original deliberation. This reasoning is done by evoking a veil of ignorance in that none of the actors knows his social position or natural ability, and therefore it is reasonable for all to assume that each can be unfortunate. Rawls is explicit in that it is rational for actors to refuse to know or be able to reasonably predict their social stations and in this way to gain an unfair advantage because they had agreed on conducting a deliberation of equals to achieve fair terms of cooperation. The second principle of justice (the 'difference principle') is then designed to justify inequalities observed in society as long as this inequality does not harm or when it improves the prospects of the most disadvantaged. This principle curtails an allotment of wealth and abilities by chance, and it entitles those without the winning ticket to the maximum chance of realising their prospects by redistributing social resources taken from those who have no morally justified claim to these resources. This redistribution – yet also compatible inequalities – are fair because they are acceptable, in the original deliberation.

John Rawls lists several conditions which are necessary for a fair deliberation on just cooperation. Rawls claims it is self-evident that fortunes and social advantages of a rational actor give an unfair advantage to him because the actor is likely to tailor the principles of cooperation to the circumstances of his own case. Actors' aspirations, inclinations and conceptions of their good affect principles to be adopted in the original deliberation (Rawls 1999, 16-7). Those principles, which it is reasonable to accept under the condition of prejudice, stand a little chance to be adopted by all

rational actors when they refuse prejudice. For example, a self-aware poor actor might argue in favour of imposing a taxation scheme which redistributes wealth from the rich to make wealth equal among all. A rich actor might however argue to have his contribution to the welfare of the poor cut. But then, when each actor is devoid of knowing his wealth, each is likely to refuse both the perfect equality of wealth and the cutting of all welfare. The knowledge of wealth, when allowed, leads to a different set of principles than when it is not allowed, in the original deliberation. Therefore knowledge of wealth is recognised to cause a prejudice. According to Rawls, knowledge of particulars such as wealth makes conflicting claims irreconcilable. Since it is rational to want to reconcile conflicts then rational actors deem it fair to draw a thick veil of ignorance over their circumstances. It is rational to do so of their own volition.

There is a connection between the original deliberation by model rational actors and the deliberation over specific courses of political action which is required and performed by individuals. The connection is a method to bridge the space between the set of principles (discovered in the original position) and judgements made in the real world and which are inevitably affected by prejudice, circumstances and knowledge available to an individual. The cognitive process of unrestricted reasonable interaction between the principles and judgements can eventually reach an equilibrium on reflection, or so John Rawls argues (1999, 18). This is a state when one's judgement is congruent with principles while one respects the derivation from these principles discovered previously in the original position. In this way, the principles of justice as fairness can guide everyday political life in a coherent and self-contained manner without any reference to self-evident truths or firmly held beliefs. Rawls's original position then is an illustrative and explanatory device to expose the reasoning behind fair terms of cooperation, to convince an individual of principles of justice in a rational argument, and to help define a personal moral stand to aid in understanding of moral relationships such as relationships to others.

John Rawls (1999, §7) makes a distinction between his approach and a group of moral theories which do not provide a system of rules to balance moral principles other than by intuition. Intuitions are plentiful, specific to circumstances, balancing objectives and reflecting habit, norm and prudence. Some objectives, for example social or economic, take precedence when judging relevance of other objectives while the balancing is, according to Rawls, left yet again to other intuitions. Weighing merit by intuition without a reference to a reasonable order of values is far from trivial, though. It seems to sport serious consequences which cannot be foreseen when intuitions are blind to them, and then one's intuition requires prudence to identify these consequences. There is no priority rule to provide an insight, it is the 'priority problem' (§8) for

which Rawls claims to have a partial solution. His solution is fairly straightforward: Rawls assumes that in the original position, it is rational to agree to balancing moral principles by listing them in an order of generality. Instrumentally, Rawls translates this into a 'serial or lexical order' (p. 37-8) of principles which allows processes of inference and subtraction to move up and down within boundaries set at each step of this order. This is the moral grammar which Rawls describes. It allows Rawls to propose that first, one agrees unconditionally to satisfy the principle of equal liberty before he considers to remedy some economic and social inequalities. Such an order then is approximate and demonstrable to hold in particular circumstances. Most importantly, once equipped with a lexical order of principles, Rawls argues, any social station can be analysed in terms of whether it is justly assigned with rights and duties. This contrasts with one's intuition which often lacks guidance in narrow and general circumstances. For example, questions of precisely the type whether liberty takes precedence over economic gain cannot be reconciled by intuition alone because liberty and economy are remote from anyone's instinctive understanding; they require a considered understanding and are not reducible to an instinctive whim. Rawls admits that his lexical order tends to point to an unspecified guiding moral principle, but using, examining and improving the lexical order of moral principles is a sufficient and useful method producing practical results even without knowing that single guiding principle, in advance.

There is another complication, however. A moral theory works according to Rawls unlike a sequence of a perfectly fitting proposition to theorem. At best, it allows an individual to reach a reflective equilibrium between the first principles of a theory and his judgement during his deliberated consideration of a problem. His critical judgement can drift away from the first principles as long as it more fairly (better) reflects particular circumstance of the case, at hand. This discrepancy is perhaps caused by a less than perfect fit of the lexical order of principles to reality or by the fact that unlike theorem-propositional statements, moral theory requires a free actor who learns to accept the link between a moral principle and moral proposition during consideration before such a proposition contributes to motivating his action, that is to his moral behaviour. According to Rawls, any theory of morality has no further ambition than to clarify and order one's thoughts, to mitigate conflicts of convictions and to converge moral doctrines which seem hopelessly irreconcilable. Hence the primacy of fairness, in Rawls's account.

14. Principles of Justice

John Rawls's theory is not solely an account of procedural justice; Rawls insists that there is no procedural justice, rule of law or mutual regard for permissible expectations of individuals possible

without a substantive justice as fairness accepted by people (Rawls 1999, 52). Rawls claims that the substantive justice is based on the willingness to respect others, their rights and liberties, and to seek to distribute a fair share of benefits and burdens of cooperation, in a society. It sets the stage for the two principles of justice for the basic structure of the society (i.e. institutions) which are spelled out in §11 (the first time), §13 (the second principle), §39 (the first principle) and §43 (the final formulation) of the revised *Theory of Justice* (Rawls 1999). This is the final formulation of the principles of justice (p. 266-7) which is reprinted, here:

> *FIRST PRINCIPLE*
> *Each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty for all.*
>
> *SECOND PRINCIPLE*
> *Social and economic inequalities are to be arranged so that they are both:*
> *(a) to the greatest benefit of the least advantaged, [consistent with the just savings principle,][5] and*
> *(b) attached to offices and positions open to all [under conditions of fair equality of opportunity].*[6]

John Rawls devised the two principles of justice to outline the basic structure of a liberal society; the structure is a scheme of assigning rights and duties which maximise liberty. The virtue of such an approach is drawn from an observation that allocation of social advantages can be questioned, that social advantages constitute a resource which can be relocated, and that self-interest or expediency cannot serve as the primary guiding principle to distribute this resource. The two principles of justice maximise individual opportunities through securing basic liberties and justifying some social and economic inequalities. A list of basic liberties is given in the table 1.

TABLE 1 Equal basic liberties

	Liberty
(1)	Political liberty
(2)	Freedom of speech and assembly
(3)	Liberty of conscience
(4)	Freedom of thought
(5)	Freedom of the person
(6)	Right to hold personal property
(7)	Freedom from arbitrary arrest and seizure

SOURCE: Rawls (1999, 53).

[5] The square brackets are mine. The brackets indicate that Rawls introduced the principle of just savings later when he dealt with the problem of justice between generations (Rawls 1999, §44) and time preference (§45).

[6] The square brackets are mine. The parenthesized clause narrows down the second principle in the light of equal basic liberties, set in the first principle. When deduced from compatible equal liberties, a condition of equality restricts opportunity.

The second principle then establishes a fair distribution of wealth and a fair access to positions of power in public organisations which exercise authority, after the first principle applies. All positions of power and all access to social and economic advantages are held open, and inequality in the positions and access is allowed only as long as everyone benefits. These principles are put in a lexical order with the first principle prior to the second. The following are priority rules which extend the lexical order and assign weights to the two principles to solve conflicts of principles for institutions (Rawls 1999, 266-7):

> *FIRST PRIORITY RULE (THE PRIORITY OF LIBERTY)*
> *The principles of justice are to be ranked in lexical order and therefore the basic liberties can be restricted only for the sake of liberty. There are two cases:*
> *(a) a less extensive liberty must strengthen the total system of liberties shared by all;*
> *(b) a less than equal liberty must be acceptable to those with the lesser liberty.*
>
> *SECOND PRIORITY RULE (THE PRIORITY OF JUSTICE OVER EFFICIENCY AND WELFARE)*
> *The second principle of justice is lexically prior to the principle of efficiency and to that of maximizing the sum of advantages; and fair opportunity is prior to the difference principle. There are two cases:*
> *(a) an inequality of opportunity must enhance the opportunities of those with the lesser opportunity;*
> *(b) an excessive rate of saving must on balance mitigate the burden of those bearing this hardship.*

The priority of liberty expresses Rawls's observation that it is not fair to limit equal liberties protected under the first principle for any compensation in or in favour of social and economic advantages. Some liberties can be limited but only for the sake of maximising the overall system of liberties. The priority of justice over economy then states that no increase in economic efficiency or no maximisation of advantages and of general welfare is fair when they do not provide the greatest benefit to the least advantaged or when they are not attached to positions open to all. The priority of justice over economy also states that a fair opportunity takes precedence over any economically better wealth distribution lessening justice (the 'difference principle', §13).

The table 2 contains a graphic rendition of this blend of Rawls's principles of justice and priority rules. According to Rawls, rational actors require a fair arrangement (asterisked, *) which then leads to liberty (dagger, †) expressed as the maximum opportunity (double dagger, ‡) to realise rational life plans for all while protecting the least advantaged. Equal basic liberties maximise those opportunities which are, first of all, favourable to the least advantaged, which are then equally distributed and which maximise the system of equal basic liberties, a system which is then fair to all.

TABLE 2 The principle of fairness (institutions) with applied priority rules

<table>
<tr><td rowspan="6">Fairness
*</td><td colspan="5">For All</td></tr>
<tr><td rowspan="5">Liberty
†</td><td colspan="4">Equal Basic Liberties</td></tr>
<tr><td rowspan="4">Opportunity
‡</td><td colspan="4">Most Favourable to...</td></tr>
<tr><td rowspan="2">The Least Advantaged</td><td>Just Savings</td><td>Positions Open to All</td><td>Equality of Opportunity</td></tr>
<tr><td colspan="3">…only when restricted opportunity benefits the least advantaged §</td></tr>
<tr><td colspan="4">…only when efficiency and maximising a sum of advantages maximise opportunity ‖</td></tr>
<tr><td colspan="5">…only when acceptable, less extensive liberty strengthens liberty of all ¶</td></tr>
</table>

* The principle of justice as fairness. § The second priority rule: restricted difference principle (welfare).
† The first principle of justice. ‖ The second priority rule: restricted efficiency principle.
‡ The second principle of justice. ¶ The first priority rule: priority of liberty.

SOURCE: Rawls (1999).

When applying the difference principle (as in Rawls 1999, 65-70) and efficiency principle (i.e. Pareto optimality, pp. 59-65 ibid.), John Rawls specifically argues in favour of one interpretation of equality, that of equal opportunity, instead of for example an equal access of talents to positions of power and wealth. In this, Rawls forgoes economic efficiency in favour of fairness and establishes the second priority rule restricting efficiency by maximising opportunities instead of economic efficiency alone due to natural contingencies. Rawls's theory does not presuppose a need to homogenise social circumstances and thus talents, which are partially a product thereof and are not equally accessible by all; therefore rational actors understand entitlement of talents to stations as morally arbitrary. Now, Rawls expressly argues that the difference principle mitigates the natural lottery of endowments and assets passed on in families (p. 64). Naturally, as the difference principle mitigates natural disendowments to improve fairness for all rational actors under a self-imposed veil of ignorance, a fair opportunity restricts the difference principle itself. The restriction is contained in the second priority rule, marked with the section mark (§) in the table 2, under the heading of a welfare benefit. Rawls touches on a lexical ordering of the two parts of the second principle of justice (Rawls 1999, 77): the table 2 reflects this ordering as it puts the promotion of the least advantaged above equal opportunity and links them by the rule of a restricted difference principle (section mark, §). Efficiency and an advantage-sum maximisation are restricted only by justice (parallel lines, ‖), that is by aiming to create better opportunities to realise life plans for all, in line

with the second principle of justice which is a kind of opportunity maximisation principle justifying certain generally beneficial inequalities. Institutional arrangements to maximise opportunity in this way are then further restricted by the first priority rule (pilcrow sign, ¶) which maximises the system (perhaps the aggregate) of liberties and thus justifies only those lower-order arrangements which improve the system of all liberties for all rational actors.

The upper top-bottom hierarchical layering of principles in the table 2 is complete with lower bottom-top restrictions (priority rules) creating a feedback loop which restricts upper-general principles by lower-specific particulars. Such a relative scheme can allow one to narrate Rawls's theory *bottom-up*, beginning with a need to protect rational occupants of the least advantaged station and inducing the opportunity to create liberty, as protecting the least advantaged is fair for all. This loop is a mark of an ordered, self-contained system of arguments. Roughly, it is analogous to the scientific method which blends induction from theorems to particulars and deduction of theorem tests from observations in a circle of logical derivation which adjusts theorems and enlarges a field of observations within a paradigm of the day. Then, one can understand Rawls's reflective equilibrium to be analogous to a process of calibration and modification, in science.

Only at this point, arrangements of the 'basic structure' of society – procedural justice – enter (§14), and for a reason. Since the difference principle of fair opportunity is distinct from a liberal principle of access equal to all talents, only some rules (procedures) define cooperation to produce the requisite fairness demanded by all rational actors. At the individual level, some rules provide an independent standard to treat men equally. I take these rules to be very specific, John Rawls mentions the procedural justice of a criminal trial searching for a truth of a statement that the defendant is guilty of breaching a rule (committing an offence) as an example of imperfect procedural justice. Then, Rawls argues, the two principles of justice lead to rules which treat men fairly, as demanded by all rational actors; the two principles underline pure procedural justice. Rawls claims the benefit is such that the two principles allow for comparing generalizable social stations without needing to know all particulars of involved individuals, and there it avoids endless arbitrations in comparing particular circumstances when deciding which institutional rule will lead to a fairer result. In other words, a particular distribution of social goods is just when it is considered just; one *does not* devise a particular distribution and does not prescribe it to a society with the intention to create a just allocation of goods between individuals of various specific desires and claims, in an act of social engineering. Specific desires and claims are always subordinate to a higher-order principle, that of fairness. Therefore, Rawls argues, the procedural justice stemming from the two principles of justice is pure, that is it produces purely what it stands for: fairness.

In structural matters, John Rawls offers (§15) a feasible method to measure effects of his difference principle. For it to work, it is necessary to identify the least advantaged station or representative individual. Then, the policy in question is measured by an ordinal measure of a benefit or loss to well-being. Limiting decisions to benefits and losses is practical unlike the pure utilitarian need for a more informative and rather specific level of measurement, a scale or even a continuous cardinal measure of desires which is valid for all. Under the difference principle, there is no need to sum utility across individuals. Further, the difference principle limits the number of social goods which it needs to serve as a basis for comparison between social stations: the difference principle is limited to the primary social goods with other social goods being subject only to individual desires. These primary social goods are listed in the table 3, and they constitute, according to Rawls, an uncontroversial account of aims for a person which allow him to pursue 'the most rational long-term plan of life given reasonably favourable circumstances' (Rawls 1999, 79). Therefore, the difference principle measures and compares effects on individuals' capacities to live the most rationally desirable lives. It does not assess the rate at which individuals achieve rationally desirable ends nor the satisfaction which is intrinsic to these ends.

TABLE 3 Primary social goods

	Good
(1)	Rights and Liberties
(2)	Opportunities
(3)	Income and Wealth
(4)	Sense of One's Worth

SOURCE: Rawls (1999, 79).

John Rawls identifies (§17) moral sentiments which underlie the difference principle: redressing natural contingencies and undeserved social inequalities. These sentiments act against incorporation, in some societies, of arbitrary natural contingencies into conceptions of justice that is against what is happening in aristocratic and caste systems when existence of a wealth distribution is perceived as enough evidence for it to be right. The sentiments do not find the natural distribution of wealth (a social station one is born into) as having any moral value, recognising that justice or injustice of wealth distribution is determined solely in society. The sentiments also contain an element of reciprocity, of a satisfaction in attaining mutual benefits from cooperation. Only after this presupposition of reciprocity is established, the sentiments then allow one to understand his wealth when obtained in a framework of just rules as a social entitlement and not a natural fact. Then, it is fair to allow only those advantages which are reciprocal and positive contributions to all social stations made during any activity pursued in the society. Rawls (1999, 90) goes as far as

recalling the moral sentiment of fraternity among these sentiments since fraternity extends the morality of cooperation in a family to a wider group of individuals where all advantage-taking of the others (expedience) is taken as morally undesirable. Fraternity usually needs a deeper level of mutual affection shared among co-patriots than one which is seen in the wider society, but Rawls finds that fraternity shows the difference principle in action. Under all these conditions, the moral sentiments, which come together in the difference principle and which Rawls identifies, they all align under a single tendency to equality.

15. Substantive Justice

Moral sentiments behind the difference principle and an account of primary social goods create conditions to account for substantive justice, which John Rawls (1999) sums as the principles for individuals, that is as the 'principle of fairness' (p. 93), and which he deals with in §18 and §§51-2. For practical reasons and due to the social nature of the virtue of justice, Rawls proposes that in the original position, rational actors first develop principles to manage their cooperation (institutional principles), and only then they deal with individual principles while following this order (p. 94):

> *(1) concept of right for individuals*
> *(2) requirements: natural duties (positive, negative) and obligations (fairness, fidelity)*
> *(3) permissions (indifferent and supererogatory)*
> *(4) priority rules for individual principles*

The individual principle of fairness (concept of right) then accounts for all obligations which are not natural duties. This is the description of the principle of fairness as applied to individuals (Rawls 1999, 96):

> *[...] a person is required to do his part as defined by the rules of an institution when two conditions are met:*
> *(1) first, the institution is just (or fair), that is it satisfies the two principles of justice; and*
> *(2) second, one has voluntarily accepted the benefit of the arrangement or taken advantage of the opportunities it offers to further one's interests.*

This principle claims that within the structure of just institutions, one who limits his liberties to engage in a mutually advantageous cooperation has the right to expect the same commitment from all those who also engage in such a cooperation. This establishes an individual obligation which arises from a voluntary restriction on acts performed within a structure of just institutions. Just institutions are understood to be those which are based on the two principles of justice. In particular, John Rawls claims that this kind of obligation cannot rise within illiberal (autocratic and arbitrary) forms of government, but Rawls also argues that such an obligation is valid even when it is an obligation to follow an unjust law, rule or institution as long as this unjust institution stays

within the limit of 'tolerable injustice' (p. 96). It is an obligation to adhere to the just system, the expression of which can be an unjust rule, in particular circumstances. Such a *defective* law is subject to amendment by a range of legitimate correctives, the last resort of which is, according to Rawls, civil disobedience. Rawls distinguishes between obligations of individuals which can be voluntary or tacit and individual duties which define roles in institutions. In addition, Rawls identifies two problematic areas, in his account: the obligation of an 'average citizen' and obligation to keep promises (Rawls 1999, 97-8). He believes that there is no general political obligation for citizens, but there is a fiduciary obligation which arises from a 'just practice' of promising and fairness (pp. 98 and 307).

In addition, individuals are subject to natural duties. John Rawls does not unite natural duties under one principle (§19); natural duties are for example reasonable renditions of the duty to help another, duty not to harm or injure another, duty to avoid unnecessary suffering, not to be cruel and not to kill. But, natural duties seem to display one common trait which is that they seem to apply, according to Rawls, with no regard of voluntary acts, they are not directly imposed by any institution or social practice, and they are not defined by rules of social cooperation. The fundamental natural duty is the duty of justice, for Rawls (1999, 99). This duty requires one to perpetuate relevant just institutions by supporting and complying with them; this reciprocity perhaps voices positively a conservative duty of not destroying that which one did not create. Such a natural duty then by definition does not require a tacit nor express consent, and it is a subject of no social contract. Any number of natural duties can be accepted by rational actors in the process of an original deliberation, and from this, natural duties draw their power to bind, unconditionally. And, the more a person benefits from the social cooperation, the stronger the duty of justice (and principle of fairness) binds him, especially so when he is wealthy or an occupant of a powerful public office, according to Rawls (§§18-9 and pp. 51-2).

The principle of fairness for individuals is useful according to John Rawls (1999, 303) because it emphasises that one enters cooperation and freely assumes a social station within arrangements created by fair constitutive conventions. The principle is an acknowledgement of the contractual element in a cooperation which is productive of mutual benefits and which in turn makes the principle of fairness into an obligation rather than a natural duty. In addition, the public awareness of individuals' willingness to follow this principle (pp. 305-6) is an important social asset. For these reasons, the principle of fairness is, according to Rawls, rational for actors who are engaged in the original deliberation.

Balancing individual natural duties and obligations in conflict is an intricate element of the account of substantive justice in John Rawls's theory (Rawls 1999, 298-9). Rawls expressly rejects the principle of utility to create a unified measure of individual duties and obligations in conflict because of utilitarianism's principal inability to reconcile legitimate individual differences. But then, Rawls is able to narrow down the number of conflicts to deal with to those which *can* incur in a system based on the principles of justice. Still, Rawls admits that he has no solution to solving even these conflicts, that he discovered no universal priority rule, and instead he examines several examples of such conflicts present in civil disobedience and conscientious refusal in order to shed light on the process of solving conflicts, in general. While doing this, Rawls argues in favour of taking duties and obligations as part of a moral system. Rawls argues in favour of solving conflicts by referring to primary principles, priority rules and then to deal with the remaining discrepancies (if any) in a set of interrelated moral principles, linked by reasoned derivations (p. 301). This nexus seems finite and therefore discoverable.

The link between the pure procedural justice and substantive justice is of course present at the very top tier of both: it is the fairness which is required in both institutional and individual moral setup. In institutions, fairness is understood to be created by a pure procedural justice; in individuals it is a rationally acceptable obligation from which there stems their right to expect cooperation from others by offering to cooperate to mutual advantage. Fairness is argued to create the boundary for individual desires and claims at the institutional level and in individual morality. Another point of convergence is the list of primary social goods listed in the table 3 above. Rational actors in the original deliberation argue in favour of these substantive goods based on a substantive 'thin theory of the good' (Rawls 1999, 160), the account of which will be examined later, in this chapter. In John Rawls's view, any rationally acceptable moral principle can become a substantive good. The notorious advantage of his liberal argument is however that there is a requirement only for a shared moral *minimum* for the system to be acceptable by all while the rest of desires and morals are then contained solely within individual liberties. While the theory of justice is not a pure procedural theory, it strives to create conditions of a pure procedural justice leading to fairness while relegating as much space (opportunity) to the unregulated area of individual desires, the cultivation of which is taken as its chief asset.

16. Original Position

The original position (Rawls 1999, chapter 3) is a philosophical interpretation of a set of conditions and processes taking place in a thought experiment. It is an arrangement of ideas which invites

individuals to comprehend it and which Rawls designed to motivate a political action, in the individual. It is made so in order to justify moral principles, help solve conflicts over social goods and be fit for use in everyday political circumstances in liberal democracies where members share a *thin* account of the good, value fairness and feature individual moral sentiments summed as a 'tendency to equality' (§17). Table 4 provides a list of conditions used to constitute the original position. This list is a simplified version from the one printed on page 126 of Rawls's *Theory of Justice* (1999).

TABLE 4 Conditions for the original position

	Type
(1)	Actors:
	- continuing persons
	- entry at any time
	- can rank alternatives
(2)	Rationality:
	- taking effective means to ends
	- motivated by mutual disinterest
(3)	Agreement:
	- unanimous in perpetuity
	- strict compliance to
	- self-interest of all poses a limit
(4)	Justice:
	- basic structure of society
	- moderate scarcity
	- compliant with formal ethical conditions
	- veil of ignorance

SOURCE: Rawls (1999, 126-7).

The actors in the original position are continuing persons, not single individuals nor societal bodies such as churches. The actors recognise that there have been generations which preceded them and that there will possibly be generations which could follow them. This condition seems to declare void a tendency to solipsism, for example, across generations, and therefore forcing actors to recognise the necessity of other rational entities in the past, present and possibly in future. This does not extend to recognising any form of a family which according to Rawls (1999, 108) is a concrete conception of justice. Rawls expressly declares that the family cannot be added to the list of conditions because the problem will then become too complex to solve. The actors can enter the original position during any time of their life when they are capable of rational and informed thought. This narrows down admitted actors from a list of all available actual persons ever existing, and it definitely restricts the group of those to whom the theory applies by narrowing down the theoretical group of all people who could have ever lived. Such a condition has a consequence on

handling the one line of critique of Rawls's approach which argues that his original position neglects the people who might or might not become alive as a result of a policy proposal under review. As Rawls's original position is not populated by all theoretically possible actors, it does not concern all who might be born as a consequence of a policy. All admitted actors are of course invited to incorporate concepts such as all the people ever existing, but the actors are free from automatically abiding themselves by the only unique principle available to all theoretically possible people which is a maximisation of the future population growth. It is a rather trivial expectation of all who might live to actually want to live, if they did.

Further, admitted actors are capable of reviewing advanced philosophical concepts, captured by John Rawls as 'presentation of alternatives' in itemised lists (Rawls 1999, 126). This seems rather a technical appendage which erects an educational barrier during the process of consideration and reaching of a reflective equilibrium between the principles of justice and one's actions, in an individual. Rawls himself gives a list of such philosophical items on page 107 of *A Theory of Justice* (1999) to classify philosophical theories by providing the most characteristic unifying elements in them, and then he expects rational actors to be capable of contemplating the theories. Further, a conclusion of such a contemplation will always be the same, in principle. According to Rawls, this inevitability of a single conclusion on the few important principles, for all actors, is possible due to the setup of the experiment that is due to an individual's embrace of justice as fairness under the other conditions which are present in the model.

This is possible since the actors' rationality takes effective means to ends in the same way and in all actors. In this sense, all actors hold an objective interpretation of probability, that is they do not compute an individual likelihood nor determine individual chance nor estimate probability distributions. The rationality does not use the 'principle of insufficient reason' (an arbitrary probability distribution inferred from an absence of knowledge) in order to limit individual risk-taking, in the original position. In this sense, the rational deliberation of the actors is ordinary. The actors know that they have concepts of the good and that they have rational plans of life with the aim of realising their goods to a maximum extent; but the actors do not know what those concepts or particulars of a plan are. The reason is that it is rational to give up this knowledge in order to be able to mitigate unfair circumstances of life by recognising the good as a societal concept and thus open to a conscious review. Still, the actors will prefer more of the primary goods than less which allows ranking of alternatives. Rawls argues that such a rational actor is not envious. Though Rawls makes a point about the general disadvantage of envy in a society (Rawls 1999, 124), in order to exclude it from the original position, it suffices to say that the exclusion of envy is due to the reason

for assembling in the original position which is a willingness to cooperate to create an abundance of resources, first, before the abundance is distributed in the form of social goods to satisfy rational desires. The expedient envy is not an expression of such willingness to cooperate, even though envy might be a drive to industry and increased efficiency, in the market. Envy does not pass Rawls's threshold for convening the original position. On the other hand, the reason for or the motivation of cooperation among rational actors is a limited altruism in the sense that actors are mutually disinterested among themselves, they feature no elements of social solidarity or goodwill nor the perfect altruism. Rawls's experiment does not require the perfect altruism: it would remove an element of risk-taking and uncertainty observed in human society (p. 149). Rawls's thought experiment attempts to capture the rationality of any cooperation which has already passed a minimal bar needed for cooperation; it does not require a selfless drive in all members of a society to be convincing.

The first condition of an eventual agreement among actors is unanimity, and validity of this agreement is set to perpetuity. Rawls does not propose to use a majority acceptance or limited periods of contractual duration instead because all rational actors recognise a need to complete equality. This requires a unanimous vote on the chief issues in order to rationally expect any voluntary cooperation among themselves in the most limited of circumstances when very little structure and few principles precede the principles of cooperation to be agreed upon. Rational actors require a strict compliance with agreements to fulfil an expectation of equality. When there is only a partial compliance, there is no unanimous compliance in perpetuity. Further, the eventual agreement contains a non-agreement threshold, in the form of a general egoism; but then this egoism is not the classical state of nature of Thomas Hobbes. A general egoism in some areas of social life is perfectly plausible, according to Rawls. When it is in the self-interest of all rational actors not to agree on a principle, the principle will not be agreed upon, but this non-agreement will not cast a judgement on the validity of an eventual social contract. Such a general self-interest does not necessarily presuppose a general enmity as would those thought experiments which are based on Hobbes's state of nature. An eventual agreement can therefore be limited and need not reach areas which are best served when only the self-interest of all is considered for reasons other than a general enmity of the state of nature. This regards for example a pursuit of self-interest as a drive for increased efficiency, in the market; then determining valid self-interests is not a subject of an agreement, in the original position. The exclusion of the state of nature which is based on a general enmity from the original position is a rational consequence of the condition of mutual disinterest, that is of inadmissibility of love or hate for each other among rational actors. Also, it recognises the

fact that some forms of cooperation can flourish even when all actors pursue various mutually exclusive self-interests, such as in Pareto's model optimality where each rational actor can desire something to a degree differing from others while the system maximises the production which is possible from available resources.

There are conditions which constrain justice as a system. The substantial constraints are already present in the foundation of the original position: the systemic remit is limited to principles promoting fairness and to preserving the *thin* good, both of which enter the original position. The subject of the deliberation in the original position is the justice of the basic structure of society. This is the reason for this thought experiment, and it is an educational exercise to deliberate over just principles of cooperation between individuals. For the moment, the principles of justice do not concern rules of corporative associations in a society or interactions between sovereign nations because these tasks are not part of the original remit, these concepts however are argued in consequence to a basic structure of a just society. Rawls sets up the original position as a method to constitute, reconstruct or comprehend existing or new major social institutions as a means of distributing fundamental rights and duties among members of society and as a means of determining a fair division of benefits generated in a social cooperation.

John Rawls claims to limit the circumstances of justice to David Hume's conditions of moderate scarcity. These are 'normal conditions under which human cooperation is both possible and necessary' (Rawls 1999, 109). Rawls characterises such a society as an attempt at cooperation while trying to contain conflicts of interest. There is a recognised interest in cooperation but necessarily no uniform interest or rank of interests applicable to all members of the society, therefore perfectly justified interests can conflict. The management of a conflict of interests over moderately scarce resources is Rawls's overarching research question. This condition is the prerequisite for any conception of justice, according to Rawls (1999, 110); without scarcity of resources when there is no conflict of interest over these resources, there is nothing relevant to manage. Further, the principles of justice to be discovered in the original position are general, universal, subject to publicity, ordering and finality. Rawls claims that these formal constraints are required to be in force all at the same time and that they are formal from the point of view of justice because they are part of the complete ethical superstructure of an identity: they hold for the choice of all principles of ethics and not only in a case of the principles of justice (§23).

Finally, the original position requires a distinct awareness of particular individual circumstances which John Rawls grouped under the veil of ignorance (§24). The veil is not necessarily a device to

limit an existing individual's knowledge to mould him into a model rational actor. This interpretation of it however has a benefit as the veil allows a real individual to imagine him in the shoes of the model rational actor taking part in the deliberation over principles of justice, in the original position. Rather, the selective set of knowledge, beliefs and ignorance of the veil is conditional to achieving fairness among rational actors, and it is a prerequisite to their impartial deliberation over principles of justice, in the original position. Rawls contrasts ignorance of some knowledge to a full or partial knowledge. With knowledge of individual circumstances, Rawls seems to argue, there is no simple way of assuring impartiality in the original deliberation among rational actors. Rawls's idea is to set up the thought experiment as an impartial procedure in which all principles agreed to will be fair by necessity and not tainted by opaque circumstances which seem to produce manipulative strategies, in social cooperation.[7] Rawls requires that each rational actor is aware of only one particular fact of the society: the society is subject to the circumstances of justice (Rawls 1999, 119). Yet of course, the rational actors need to retain the knowledge of general facts of human society, political affairs, economic theory, and any general laws and theories which do not give an unfair advantage of one rational actor over another, in the original deliberation.

From this, it becomes obvious that John Rawls's original position is not a model of a general or constitutive assembly, or an assembly of existing persons. But then Rawls designed it so that its conclusions can be scrutinised and adopted by existing persons when they accept the constraints of its conditions. The veil of ignorance is the device which allows individuals to produce principles by rational consideration, without resorting to common intuitions. The restriction of particular knowledge assures that the same principles are always produced, under the circumstances. The condition of the original position is such that each rational actor performs identical rational deliberations like the rest of the group; therefore selecting any one rational actor at random results in revealing one single shared mental process. Therefore the multitude of such identical entities serves one purpose only, which is to enforce onto rational actors in the original position the respect to others. This respect is limited to mutual disinterest. The multitude ensures that the preeminent condition is equality once each rational actor accepts that all actors are equally identical and any decision taken must then be unanimous. What the multitude is not supposed to model are the differences in circumstances even though these differences are real and dominant, in fact. The multitude does not bargain, either; it does not form coalitions; no one intends to skew principles to

[7] I follow the division of illocutionary and perlocutionary speech acts as captured by John Austin (1962) and not as subsequently developed by Jürgen Habermas (1984; 1987), the difference being Habermas's apparent judgement of demerit on all perlocutionary acts which however is not necessarily present in Austin's original lectures. Also, compare with John Rawls's discussion of illocution on pp. 356-8 of his *Theory of Justice* (Rawls 1999).

his advantage. In this way, Rawls disposes of the worst expedience which can be expected from egoistic individuals. But, Rawls admits that not all self-interest is removed from the original position. For example in the case of savings, Rawls argues that since the rational actors know they are contemporaries they could favour those principles on savings which favour people who are existing at the expense of people who will exist in future, when benefiting in the present while incurring a cost in lesser future benefits. The end-result of these conditions is, under the circumstances of the original position, that each rational actor decides for all as if he were able to become each and every member of the society. This ensures that bias and compassion towards oneself is attached to all social stations.

John Rawls declares that the restriction on information admitted in the original position is fundamental because without the restriction there is no way to construct a 'definitive theory of justice' (Rawls 1999, 121). This ignorance allows, according to Rawls, creating principles which are acceptable by all, unanimously. The limits on knowledge avoids the 'bargaining problem' which is a complex situation of reaching unanimity through a direct negotiation of everyone with everyone; and, this seems impossible to imagine nor achieve in large societies. Then, the unanimity of agreement in the original position, which is so difficult, impractical or even contra-productive to achieve in the real world, rings of a true reconciliation of conflicting interests.

17. *Thin* Theory of the Good

Rawls argues in favour of a minimal set of certain premises accepted initially before the thought experiment of the original position can be initiated. This is a required moral minimum. He refers to this set as an 'account of the good' and the *thin* theory of the good (Rawls 1999, 348). It is notable that *thin* goods are not completely substantive because in them Rawls attempts to create a boundary for the institutional framework to be later established through the original position. Then, individual persons' substantive goods can be nested within such institutions without the need to know and assess what these goods are, provided they are within the shell of the *thin* theory. Rawls draws on various aspects of philosophy when listing the elements of the *thin* theory which precedes the theory of justice. Rawls stipulated that rational actors in the original position accept all of the aspects of the *thin* theory of good and therefore the aspects are acceptable for rational individuals in the process of reaching a reflective equilibrium, in a well-ordered society. These aspects are listed in the table 5.

TABLE 5 Rawls's *thin* theory of good

	Feature
(1)	Actors:
	- Accept the thin theory in the original position.
	- Accept that primary goods are necessary for rational life plans.
	- Act according to a basic principle of motivation.
	- Require more than less of primary goods.
(2)	Primary Goods:
	- The definition of a good is morally neutral.
	- Primary goods are identical for all people.
	- They are self-respect, liberty, opportunity, income and wealth.
	- Self-respect (moral worth of a person) is above the rest.
	- The sense of justice is a primary good, for most.
	- A preference for primary goods is rational.
(3)	Rationality:
	- Parsimonious criteria of rational choice explain the preference for primary goods.
	- Employs deliberative rationality to assess happiness.
	- A unanimous agreement on standards of rationality is not required.
(4)	Other aspects:
	- The thin theory defines beneficent and supererogatory acts.
	- It constrains drafting of primary goods.
	- It allows establishment of original position.

SOURCE: Rawls (1999, pp. 347-81, 392-4, 496-503).

The *thin* theory creates constraints on model rational actors who populate the original position. First, actors are assumed to accept the *thin* theory of the good (pp. 349, 380), in the original position. They take for granted that they desire primary goods, such as greater liberty, more opportunity and more extensive means to achieve their ends. The *thin* theory accounts thus for the primary goods (p. 380) because it is rational to want primary goods whatever else is wanted ('aims'); they are necessary for determining and execution of a systematic collection of one's aims such as a rational plan of life. Rational actors are then motivated to act via a blend of several principles observed by John Rawls. There is a basic principle of motivation (p. 373) which Rawls dubs the 'Aristotelian Principle' (§65) which is a tendency observed in humans (p. 376). The principle claims that 'other things equal, human beings enjoy the exercise of their realised capacities [...], and this enjoyment increases the more the capacity is realised, or the greater its complexity' (p. 374). It is a principle of motivation because it accounts for many major desires and it explains why people prefer to do some things and not others. It explains some changes in the pattern of behaviour (p. 376); it explains why observing another's action brings pleasure in actors and emulation by others (p. 376). The motivation itself is constrained since doing something unjust is not included among the primary goods (p. 373): an action is constrained by the principles of justices to be accepted, in the original position. When tied with Rawls's primary principle of self-respect, the Aristotelian Principle seems

central in understanding justice as fairness (p. 380). Then, in order to advance one's aims, it is usually rational to require more rather than less of primary goods (p. 349).

Then, John Rawls accepts that the definition of good is morally neutral, that is there is no moral worth naturally attached to any point of view from which things are judged to be good or bad (p. 354). For Rawls, a concept of good does not require a definition of its meaning which reaches beyond ordinary observations. Good is explained in a constant descriptive sense and by employing a theory of speech acts (p. 356) as described by John Austin (1962): judging something as good means that the thing has the properties which it is rational to expect in things of the same kind. The good of a person is then defined by a reference to his rational plan that would be chosen with the full deliberative rationality (p. 372), that is in an optimal model situation for decision-making when all information is available. Still, plans which are rational to adopt vary between people depending on their circumstances and luck; this is why, according to Rawls, individuals find their happiness in doing different things (p. 359). And, this is why the definition of good is morally neutral, to protect the diversity and not to cast judgements before the original position is established.

John Rawls's *thin* theory of the good establishes that when certain kinds of things are rational to want by persons with rational systems of aims, then the things are good for these persons (p. 351). If these things are satisfactory for all (in general) then they are human goods. Such human goods are liberty, opportunity and sense of own worth (in the footnote no. 2 on p. 351, Rawls lists 19 works in the theory of ethics in support of this claim). A list of the primary goods is one of the premises of the *thin* theory of good (p. 380) because the goods which are common to all individuals occupy the initial environment before the original position is established. From the combined position of their liberty and self-respect (p. 349), rational actors evaluate conceptions of justice presented to them in the original position (p. 380). The *thin* theory defines the moral worth of a person (p. 349) and places self-respect above liberty, opportunity, income and wealth, in the list of primary goods (p. 380). The primacy of self-respect (§67) establishes that one's plan of life is worth pursuing and that one can pursue it. It allows taking of pleasure from it (p. 386). And therefore a capacity to ever-increasing self-respect is the first of all social goods, according to Rawls.

There is a question whether the sense of justice is a primary good since it, according to Rawls, fails to be applicable to all persons and thus to fulfil the generality condition of all human good. Still, the *thin* theory establishes that the sense of justice is a good (p. 350) of a higher order, in a well-ordered society. This good generates its own supportive attitude in rational actors when they are assessing the original position independently from the 'constraints of justice,' that is during their independent

deliberation to discover the principles of justice for themselves. Rawls calls the resulting match between justice and goodness as a 'congruence of justice' (§80). The *thin* theory establishes that it is rational for those in a well-ordered society to affirm their sense of justice as regulative of their plan of life; it is the individual's good to be guided by the standpoint of justice (pp. 500-4). The *thin* theory gives reasons for this based for example on affections and companionship, but it does not provide a rational argument true for all individuals (i.e. convincing for all) because the nature of some individuals is incompatible with it. About these unusual individuals, Rawls says, 'their nature is their misfortune' (p. 504) and that not everyone can be supplied with a sufficient reason as defined in the *thin* theory to preserve his sense of justice (pp. 504-5). In all this, Rawls maintains that a preference for the primary goods is rational (p. 349), with this one peculiar exception of the sense of justice.

The *thin* theory establishes that rationality allows a choice of the primary goods and that it allows a demonstration for the choice of the principles of justice (Rawls 1999, 393). Evident criteria of rational choice are sufficient to explain the preference for the primary goods (p. 392). In the *thin* theory, the principle of a rational choice (p. 361-3), outlined by John Rawls, has three technical aspects leading to a greater parsimony. There is (1) a principle of effective means when given an objective, in which one is to achieve an aim with the least expenditure or, given the means, to achieve it to the fullest possible extent. There is (2) a tendency to prefer the plan the execution of which achieves all the desired aims and more to the plan which achieves less. And, there is (3) a likelihood aspect when the plan which has a greater chance to be realised is preferred to a similar one but with a smaller likelihood of achievement. The deliberative rationality is a rationality with an aim: Rawls argues that the plan which maximises the expected net balance of satisfaction (p. 365) will be adopted because it is the plan which takes the course most likely to realise one's most important aims. A deliberation over this (which is a determination of what makes one happy) is done by the actor himself, in an act of deliberative rationality.

The list of primary goods is accounted for in the *thin* theory of good because goodness is understood as rational within the 'general facts about human wants and abilities' together with other principles and necessities such as social interdependence (Rawls 1999, 381). Still, beyond the universal primary goods, unanimity concerning other standards of rationality is not required because each person can plan his life as he pleases (p. 392) therefore Rawls's account of the substantive, individual good is thin, shell-like. The rest of its substance (one's life plan) is filled in by an individual.

There are other aspects of the *thin* theory of good. It defines the rationality behind pursuing beneficent and supererogatory (performance of more than one's share of duty requires) acts (Rawls 1999, 349). It also provides a space to contemplate and choose the primary goods before a compact theory of good is engaged after the principles of justice are discovered, in the original position (p 380). Further, the *thin* theory arranges conditions for the premise that being a good person is a thing which is good for this person through the congruence of a moral theory (p. 349; that is a congruence between justice and goodness). Though determining this is subject to a full theory of justice after the original position is established, the rationality of the goodness of justice seems to be established before the original position, for most people. Finally and as a matter of course, the *thin* theory of the good allows an establishment of the original position.

Rawls seems nowhere to impose the veil of ignorance, in the *thin* theory of good. But as the *thin* theory does not seem to concern applications of the principles of justice, and as it rather outlines evaluations of persons' goods which always rely upon facts of life (p. 394), there seems no need for a restriction of information about particular circumstances, in the *thin* theory of the good. Now, it remains to be seen whether the shared moral minimum of John Rawls's *thin* theory is enough for a system of justice, or justice as fairness, or the two principles of justice, to become rationally acceptable by all while the rest of individual desires and morals are contained solely within the liberty of individual rational plans of life, that is within their systems of aims which are unknown to the theory of justice as fairness.

18. Note on Utilitarianism and Intuitionism

John Rawls has based a part of his argument on comparing his theory with classical utilitarianism (§§5-6) and intuitionism (§7). He has conducted several trials based on these theories to test the process of deliberation over principles of justice in the original position (§21). For the purpose of this dissertation and as argued by Rawls, it is here taken for granted that the principle of utility is often in conflict with many moral intuitions present in society (Rawls 1999, 21), that it can be seen as acceptable only under restrictions imposed by the original position, and that intuitionist theories lack reasonable arguments to establish primacy of certain principles and thus to solve conflicts especially in areas where there is no consensus available by the means of prudence or precedent.

CHAPTER III. ANALYSIS AND SYNTHESIS

The Theory of Justice as Fairness (Rawls 1999) is shown to harbour a discrepancy pertaining to its core thought experiment of the original position. Several philosophers seem to have hinted at a set of deficiencies in the theory which are centred on impartiality and on the method by which John Rawls's theory achieves it. The discrepancy is prominent. It concerns the question of how conflicts of moral doctrines are resolved, whether in the public or private domains of a liberal democracy. The chief intuition of liberty plainly states that conflicts over substantial while reasonable goods need to be resolved freely, without undue intervention. Yet, some of the conflicts concern also the public good (say obligations due to the public) and therefore a useful theory of liberty cannot escape to offer an understanding of adjudication of such a class of conflicts. In Rawls's theory, attempting to achieve an impartial adjudication by the means of the original position seems to constitute one such method to resolve these conflicts. This dissertation offers to enhance Rawls's original position further and to address the discrepancy. And, in order to evaluate the practicality of such a proposal, a test is devised regarding political nepotism. The test is conducted next. Also, the enhanced original position of Rawls's then requires a corresponding formulation, and the first iteration thereof is offered here. In the final chapter of this dissertation, this augmented interpretation takes the form of a Theory of Justice as Equity to fulfil the remit of justice as fairness.

19. Concern for the Veil of Ignorance

The critiques of John Rawls's theory (1999) reflected here were given first by Robert Nozick (1974), H. L. A. Hart (Daniels 1975), Jürgen Habermas (1995), Michael Sandel (1998), Amartya Sen (2002), Ian Shapiro (2003), Samuel Freeman (2007), Gerald Cohen (2008) and Jon Mandle with John Taylor (Mandle and Reidy 2014). Their reading is offered next as the *Problem of Priority*. These views provide an illustration of eight discrepancies in the theory which this dissertation attempts to trace and hopefully solve. The discrepancies regard the theoretical explanations of altruistic traits, robust moral personality, overlapping agreement, arbitrariness of circumstances, entitlements, shared morals, congruence of personal goods with principles of justice, and the social justice. This dissertation is concerned with a discordance in these areas pertaining to a 'veil of ignorance' which is Rawls's method to seed impartiality in the thought experiment of his original position.

19.1. Problem of Priority

Jürgen Habermas (1995) criticises John Rawls's theory of justice for three faults: that (1) there are some aspects of original position's design which do not allow a clearly impartial judgement of duties and obligations; that (2) aspects of Rawls's theory are made intentionally incoherent in order to produce principles which are neutral on moral grounds; and that (3) Rawls's theory should rather be made to argue in favour of the primacy of democratic legitimation rather than of the basic liberal

rights. For this thesis, Habermas's first objection is relevant, directly. In it, Habermas examines whether the veil of ignorance is sufficient to assure impartiality of judgement (Habermas 1995, 112 and 116 ff.). Habermas indicates that the rational actors who occupy the original position cannot act as full moral persons due to an imposed lack of knowledge of particulars. The lack of knowledge is however not imposed in order for the rational actors to be morally irrelevant persons, as suggested by Habermas's line of argument, but in order to assure impartiality in their deliberation which is constitutive of basic social structures. The lack of moral capacity in rational actors is sought as an advantage in the sense that then substantive goods, apart of the primary goods, can be decided by each and every real persons for themselves within such a constituted framework of a society and not by a model legislator, in the original position. The model rational actor is not created to cast universally binding moral judgements. The rational actor does not even decide the primary goods as these are the foundation of the original position which fulfils them; their substance is supplied from within the *thin* theory of the good, that is from the initial state of the thought experiment, before the original position is established.

For Jürgen Habermas (1995) however the rational actors are 'representatives' of citizens (p. 110); this claim is in contrast to the fact that model actors are connected with real citizens via the process of reaching reflective equilibrium which is different from the notion of a democratic representation. This mismatch in conceptions seems to lead some of Habermas's argument astray as it allows him to expect that the rationality of the original position becomes irrelevant once moral judgements are cast by real people (Habermas 1995, 113). This also leads Habermas to confuse the primary goods for rights because Habermas claims they acquire characteristics of rights while they are goods (p. 116). This can happen because the promotion of primary goods is the aim of the original position set in the initial stage of the thought experiment (the rights are the aims of the original position), while they are always goods, universal to all because they are made so by definition (only those goods which are rational and universal to all are defined as primary goods). Overall, Habermas objects against attaining impartiality through a denial of selective, advantageous knowledge which is the method he takes for the culprit. For him only 'self-understanding' individuals can reach comprehension of universally valid, transcendental rights, that is of the primary social goods in John Rawls's understanding. On this point, Habermas is far from Rawls, because Rawls's project demonstrates that this comprehension (albeit limited) can happen within constraints of a theory of justice. An abstract suggestion to take everyone's perspective by everyone else ('discursive ethics,' p. 117) to achieve a transcendental understanding of morals is a natural extension of Habermas's arguments and is plagued by a combinational unattainability in the

political space, available time and requisite communication resources, the avoidance of which is the task that Rawls has set out for his theory.

Nevertheless, I believe Jürgen Habermas is right when indicating that it may not be immediately apparent to what extent the rational actor in the original position is a moral person, and how morally relevant his judgements of merit and demerit can be if he is barred the plethora of interpersonal details and perceptions which are normally required in order to cast any moral judgement. In his response, John Rawls (1995) makes it clear that he considers the justice of the process (procedural aspect) and the justice of the outcome (substantive aspect) as two distinct elements of his theory which are connected. For example, Rawls claims that an impartial procedure gives all a fair chance to present their case. In this restricted sense even the procedural justice can be understood as substantive, that is in its deliberative call for impartiality. What is more important however is that Rawls distinguishes his view from Habermas's mainly on the ground of restricting the applicability of his theory to political philosophy, that is not proposing a philosophy of everything. This phrasing can also be an expression of Rawls's civility when addressing his critic. As the subject of his theory, Rawls takes an existing democratic liberal system populated by citizens seen as free and equal. For example, a measure of truth for Rawls's theory is reasonableness, unless there is a better measure discovered for practical use in political philosophy. Similarly, in questions of morality, Rawls's theory seems to relegate some moral judgements from model rational actors to individuals with concrete considerations in a reflective equilibrium, an individual is free to cast the rest of the moral judgements as he feels right. In the case of legitimacy of a system, for example, Rawls demonstrates a connection between legitimacy and fairness arguing that fairness is more restrictive and therefore a more useful concept of moral judgement in evaluating modern liberal democracies. It remains to be seen whether this relegation of casting moral adjudications into the private sphere is sufficient for solving disputes of certain moral doctrines which otherwise touch upon the foundation of such an argument, that is which are rooted in the conditions of the original position.

This call is perhaps answered by the concept of an overlapping consensus for which Ian Shapiro (2003) praises John Rawls. Rawls (1999) developed it in §59 on the role of civil disobedience of *A Theory of Justice*. The consensus places little restriction on the variety of reasons which allow citizens to arrive at identical, overlapping agreements regarding the legitimacy and other major issues of their cooperation, that is regarding the principles which allow them to live in a society. Shapiro is clear that no principle which Rawls has discovered can replace the overlapping consensus in that if it did then the overlapping consensus would have been defined with a reference to it.

Shapiro finds the overlapping consensus a more appealing device than the veil of ignorance (Shapiro 2003, 121), and he draws an analogy between the working of an overlapping consensus and a secret ballot – in either case, one is not compelled to explain or convince others of his preference for the system to work, to reach a consensus or to conduct elections. There is no public accountability for voters nor citizens which would be similar to the accountability expected from for example elected officials. Then, the possibility of an overlapping consensus based on otherwise conflicting moral outlooks seems to fit well with the lack of moral charge in the original position as indicated by Habermas.

But then, there is the case of moral arbitrariness in endowments which Ian Shapiro claims John Rawls identified, that is the assumption that endowments alone do not constitute a morally justifiable claim to resources. A pluralism in moral values, the fact of incompatible arguments coming together in an overlapping consensus, and the moral arbitrariness of endowments allows Rawls, according to Shapiro, to employ the device of the original position in crafting the moral minimum to be shared by all and to do so willingly. Yet, Shapiro's chief objection against this approach is aimed against the *thin* theory of good: this collection of disparaged principles might not be acceptable for all who still pursue rational and reasonable life plans (Shapiro 2003, 132). Though it is not immediately obvious what kind of a life plan Shapiro must have meant, the very fact of a requisite minimal shared good raises the question of a possible bias of certain judgements of the good over other. This can be fine as for example Rawls's theory of justice is intentionally made biased in favour of fairness, but only as long as this partiality is feasible.

Specifically, Ian Shapiro seems to object to an over-inclusiveness of the difference principle which seems in principle to allow large redistributions of wealth for a relatively small gain in social goods of the least advantaged, a pure market system or a mix of both (Shapiro 2003, 136). But Rawls would seem to offer that it is the business of political economy or a matter of public discussion to suggest which policy amends an unfair distribution of endowments the best and which is plausible in a concrete society. But in this, Shapiro indicates a deficiency in Rawls's system of lexical priorities of principles. Shapiro asks, when someone is starving (the difference principle is engaged), what good is for example the freedom of speech to him (p. 139) and whether he can forfeit it for food if this is the only choice there is. In a reasonably wealthy society, Rawls argues, the lexical system would not forfeit the fundamental liberty as it is placed higher in the order of principles, above the difference principle. Then, Rawls offers a solution of adjusting one's standpoints, in reaching a reflective equilibrium. While Shapiro admits it sounds reasonable that one can change his moral convictions on some matters in this process, the rest is questionable due to human psychology and assumptions

about economy and society (p. 140-1). Shapiro claims that not all are concerned with the welfare of the least advantaged; and this is Shapiro's reiteration of John Rawls's own claim that the rise and fall of a theory is brought about by empirical facts.

For Ian Shapiro (2003, 142) the most controversial part of John Rawls's theory seems to be one based on claims concerning the moral arbitrariness of endowments. Shapiro observes that when one's endowments *feel right*, they provide psychological satisfaction, and such feelings of ownership of one's produce seem to make sense for humans as members of a species which relies on work of its individual members for survival. Shapiro claims that Rawls avoids the full implication of his claim to moral arbitrariness (which I suppose is that any arrangement can be justified morally) for example by denying effectiveness to be the measure by which treatment of resources can be justly judged while on the other hand, for example, a justice in food distribution cannot be decided with a reference to the primary goods but rather to a measure of effectivity which is, say, a level of nourishment (p. 143). Shapiro illustrates this as a conflict between his own 'workmanship ideal' and Rawls's moral arbitrariness. The 'workmanship ideal' in a sense would be considered as a legacy moral doctrine in the eyes of Rawls's theory, much like any individual non-liberal aim would be.

Before Ian Shapiro, Robert Nozick (1974, 180 ff.) harboured a similar discontent with John Rawls's moral arbitrariness argument in his response to Rawls's concept of the veil of ignorance; the response concerns Nozick's concept of entitlement. Rational actors who give up information about their real world holdings cannot, according to Nozick, make relevant decisions regarding redistribution of goods because they are not aware of their entitlements provided that there is a primary moral principle saying that each member of the society is entitled to everything he produces without the benefit of social cooperation. It is as if Nozick added to the *thin* theory of the good a prerogative of material and intellectual ownership. In this sense, Rawls's model rational actors cannot give up information about individual entitlements because they need to determine the share of produce entitled to each in a state of non-cooperation, then to determine what the rest of the produce is and how to divide it. Legitimate differences in holdings seem, for Nozick, to be those which arise from natural abilities of individuals. Then, allowing such moral provisions into the original position would perhaps result in altering the difference principle, provided the priority of holding is considered a primary good. It would perhaps have no effect on the rest of the primary goods, as it would be treated along the strategy which Rawls suggests for conflicts of liberties. But, the difference principle would have to be altered to allow for inequalities unless holdings of anyone were adversely affected. Such a fix would result in a stark contrast with Nozick's insistence that from the point of view of model free-standing and free-holding actors it makes no sense to establish the

original position with the intention to discover principles to divide benefits of cooperation. Nozick proposes a thought experiment comprised of several iterations of the 'Robison Crusoe,' each living a self-sustained life on his own island, who suddenly open channels of communication and cooperation between them. Nozick's freeholders refuse to subscribe to Rawls's *thin* theoretical argument that individual endowments have no moral consequence; they refuse Rawls's argument of moral arbitrariness of misfortune, in their own initial situations. Therefore, the prerogative to a holding cannot enter the original position.

Also, Robert Nozick (1974, 189 ff.) refuses to accept John Rawls's difference principle for another reason in that he remarks the principle seems to treat individual talents as any endowment and thus it makes talents subject to redistribution or compensation. This has crossed a line for him, but in all fairness Rawls refuses to consent to this sequence of thought as he declares that an individual's talent is expected to be developed, and this can be a legitimate expectation in a fair system (§48). Then, the talent seems protected by a requisite principle of liberty within the sphere of reasonable individual aims against appropriation as if it were not a social good or socially induced or socially developed good, and thus it is not subject to redistribution. Admittedly, this is not an exemplarily parsimonious argument especially when compared to the intuition of what *feels right*. Perhaps this is what Shapiro indicated as the terminal consequence of Rawls's moral arbitrariness argument which is uncomfortable, intuitively.

H. L. A. Hart contributes to this discussion by arguing that John Rawls's condition of denying knowledge of particulars does not allow rational actors in the original position to adequately weight effects of liberties ('primary goods' in Rawls's terms and 'natural duties' in Hart's) because in doing so one needs to know the benefit of a liberty for himself in addition to knowing the extent of harm the liberty can generate for himself through the exercise of such a liberty by others (Daniels 1975, 247-9). This neglect, according to Hart, allows Rawls to claim that rational actors in the original position strive to maximise liberties and allow for a liberty to be diminished only if this leads to an increase in the overall system of liberties while such a limitation is accepted by him who gives up this liberty. This deficiency seems to indicate that in order to assess effects of liberties, rational actors might not be willing to give up all the information pertaining to specific social stations to be able to adequately assess both sides of the equation of introducing or diminishing a liberty in the society. Perhaps, there is an advantage in allowing some biased information in the original position, after all: one which directly concerns the tenets of Rawls's theory, that is the primacy of liberties. The question is whether this biased information needs to be specific to rational actors so then it provides them with unfair advantages in negotiations with other rational actors, or whether it can be

abstracted to a model of a citizen ('representative equal citizen' in Rawls 1999, 179) which then can be subject to analysis by rational actors without any infringement on impartiality.

But, H. L. A. Hart seems to refuse the notion that an analytical device of the representative citizen yields results in cases when there are two incompatible reasons held by two equal citizens leading to a conflict of liberties (Daniels 1975, 242). Hart deems irreconcilable such situations by the means made available by John Rawls. The reason is that dropping the barrier, that is allowing liberties to be judged by outside yardsticks than by other liberties from within the system of liberties, might lead to allowing material gain to take precedence over some liberties, under certain circumstances. Hart gives a scenario (pp. 250 ff.) of a society where the majority of people promotes setting up a more authoritative regime for themselves having been convinced that this will advance their prosperity. In it, the best of the least favourable situations is the one which occurs in a society without the priority rule of liberty. It is one where occupants of the least advantaged and poorest station can give up a liberty, say a religious freedom, for improving their welfare. This choice is rational, but it differs from the choice which is rational to take in the least favourable station when the priority of liberty is guaranteed. That is, Hart points to a situation where the least advantaged and poorest person cannot improve his welfare any further than up to the point allowed to him by the difference principle (inequality is permitted unless it harms the least advantaged person, conditional to any infringement of liberty). Hart found Rawls's safeguard against favouring the system which is without the priority of liberty as inadequate. Rawls, according to Hart, seems to argue that in a society which attains a certain level of welfare, people prefer protecting liberty to promoting other social goods. For Hart, it is not reasonable for such a switch in rational attitudes to occur. For Hart, this switch is caused by Rawls's harbouring of an alleged latent ideal of a 'public-spirited citizen' (p. 252) but which has no rational bearing on the issues dealt with, in theory. This observation directly assaults Rawls's idea of congruence of justice and goodness.

Michael Sandel (1998, p. x-xi) puts an emphasis on a related issue which is the question whether the right is prior to the good; a recast question is whether rights can be found and explained with no particular reference to any good life so that they can germinate a system which allows incompatible yet reasonable patterns of good life. In John Rawls's theory, there are the principles of justice specifying rights which do not depend on a particular set of values; but for Sandel, rights can be justified with a reference to the moral values of ends which the rights promote. Sandel (1998, p. xiii) gives an example of the religion, a practice of which and following its duties are often not freely selected and therefore this religion is not at par with a typical choice of a good life plan by an individual and thus it is not to be protected in a liberal political system. But, a religious person might

not be able to renounce his religious duties even in the face of his civic duties. The answer to this, according to Sandel, is disturbing for Rawls's theory: a religion deserves a liberal protection for the *effects* it has on the lives of those who practice it as good citizens or for its inspiration for deeds which are admired, generally. Then, such a religious life, one of many kinds of plausible life plans, is judged to be worthy of protection in a liberal system for its effects, and in this case, Sandel indicates, the priority of right looses to the good of particular ends. Sandel extends his objection to the theoretical treatment of the freedom of speech when he shows that the grounds for banning a hate speech or allowing a pro-civil rights march cannot be fully explained with a reference to neutral rights (which would allow both) or offended community values (which could forbid both). Instead, when the moral worth of the content of the speech in question and the moral clout of the community which is being offended is taken into equal consideration, again the end effects of a particular good (speech) determines the right to propagate it or the injunction preventing it (pp. xiv-xvi). Sandel does not seem to be claiming that religious freedom and free speech are out of bounds of protection, in the liberal perspective (as any reasonable good is); instead Sandel points to some *hard cases* where a reference to moral purposes (a substantive moral judgement) is necessary in satisfactorily adjudicating moral worth of for example vocal protests against enormous wrongs done in the past.

Michael Sandel (1998, 127) perhaps finds the source of the problem in the definition of the original position which is set up to promote a certain aim which is fairness and which limits the range of choices available for the rational actors inhabiting it. In the original position, Sandel cannot see the compelling reason for the actors to engage in a bargain over the principles of justice when they are deliberately made identical behind the veil of ignorance (p. 128). And further, even the very concept of an agreement in the original position seems to lose relevance, according to Sandel, as John Rawls seems to emphasise that when one rational actor arrives at a conclusion of his reflection, all arrive at the same conclusion. Then, there is no agreement, but there is uniformity, according to Sandel; there are doubts about plurality of rational actors (pp. 129 and 131). Sandel claims that with the onset of the veil of ignorance, any plurality of individual rational actors 'dissolves' (p. 132). This apprehension displaces a voluntary agreement, for Sandel, and it transforms the original position from a bargaining device to an instance of cognitive reflection. Sandel argues that the original position behind the veil is a device of discovery, that the rational actor is too *thin* to be capable of moral judgements, and thus Rawls found moral entitlements on legitimate expectations, instead (p. 178). At the level of the difference principle, Sandel argues that one does not necessarily claim a moral right to possession obtained through accident, but it does not follow that then all possession is

communal univocally, which Rawls asserts. For Sandel, this is impossible to reconcile on Rawls's terms. Then, Sandel concludes that the concept of a person, which Rawls needs to reconcile this with, is a political one (pp. 191-2), a person who assumes that there is no priority of good over right, for the purposes of outlining boundaries for substantial goods within a political interaction. And this spells a chief difficulty: according to Sandel, Rawls requires people to regard themselves independent of any loyalties.

In reply to Michael Sandel, Thomas Pogge (1989, 63) denies specifically the possibility that John Rawls meant to expropriate produce of individuals, in that making their property and talent communal amounts to breaching an undisputed tenet of ethics and to treating persons as means to further ends. Thus, there is a different interpretation in order and Pogge supplies one: natural endowments are protected under the first principle of justice (primacy of liberties) while Rawls makes only social goods follow principles of a fair redistribution. And further, Pogge argues, Rawls's theory concerns only those social means which do not acquire a valid moral claim to them. In a just system, an ownership of property and one's claims to his own produce are inviolable, that is property is not subject to redistribution. But, this reference of Pogge's to a primacy of principles is directly relevant to the *hard cases* observed by Sandel, and they seems to require a knowledge of particulars including an assessment of individual loyalties to be resolved, satisfactorily.

In a subtle observation, Samuel Freeman (2007, 150-1) remarks that in theory, judgements of right are made under the veil of ignorance while judgements of value are part of the deliberative rationality which requires knowledge of the particulars to make judgements morally relevant. These individual judgements of value will often differ according to individual affinities, unlike the common judgement of right. But all individual judgements cannot differ in one element, in ascribing value to justice. John Rawls's congruence argument then goes as far as to claim that individual judgements of values (individual goods) are in harmony with the public judgement of right (principles of justice for all), and that this congruence is not accidental. This allows one to argue that the public judgement of right is not a universal individual good. Instead, one can hold then that the universal public judgement of right complies with a plurality of reasonable individual judgements of right. Freeman's argument (pp. 158-9) in favour of determining how the sense of justice can become a good shared by all can be simplified to a pivotal observation made under ideal circumstances of a well-ordered society: one can rationally accept that, in order to pursue his reasonable goals, he needs to act within a system which maximises this chance; and one such system is based on the primacy of justice acceptable by all, and thus then the pursuit of justice is a good shared by him and all, under the assumption that it can be shared by all. Freeman (p. 164) shows that it is necessary to

rank justice higher than other individual goals when he gives an example of a person who wants to be a just person while needing to balance his loyalty to family, successful career, devotion in church, and accomplished musical performance. In Rawls's theory, it would be possible to offset these goods against justice only when a stabile social order of a society based on justice as fairness breaks down. This is seen plainly from Freeman's argument that in order to be just, one cannot offset justice and thus sacrifice it; that it is the justice which requires to be a supreme good, and only that person who sincerely recognises the primacy of justice can strive to be just because he realises that offsetting justice diminishes it (p. 164). This motivation is behind the expression of people as free and rational persons because autonomously they act on principles and not on circumstances pertaining to talents, ends or allegiances (p. 165). On the other hand, Freeman finds it obvious that an argument which requires a harmony of values across a large number of people is difficult to defend. Therefore, even if the congruence of individual good and principles of justice does not accomplish a stability in a model well-ordered society, there is a chance for the stability to be brought about by an overlapping consensus. Under the consensus, the requirement to hold one good among individuals is less restrictive as long as these individuals do not need to hold a single universal *reason* for their adherence to that good. Now, even though individual reasons leading to a common good can be incompatible; if considered in isolation however, the fact of an overlapping consensus can justify various values and not only justice (p. 171). Inasmuch Freeman replies to an earlier argument on a primacy of principles, here Freeman is not as successful in rescuing Rawls's congruence argument by relying on an overlapping consensus which for Rawls cannot form the basis of a fair social cooperation.

Gerald Cohen (2008, 154) develops a critical point on an arbitrariness of endowments similar to that of Ian Shapiro (2003, 142): according to John Rawls, in seeking justice, people are trying to right wrongs of a morally arbitrary distribution of endowments among individuals; but then Cohen asks, when people are moved so by abhorrence of morally arbitrary conditions, why then some constrains of justice seem to be approaching a breaking point, that is, why then people do not live according to the principles of justice? Why is an individual moral sense seen as less informative than the difference principle? Cohen gives an example of a hypothetical situation in which people agree that in order to improve the welfare of the worst off, the better off must work harder. In order to do so, they however require more incentives which cause further inequality. Then, as the capacity of people to work harder develops, the people might agree that it is more just to decrease the inequality of incentives to improve equality. Cohen observes that in this situation, a new pattern of distributive justice (arguably more just) is developed without a reference to the difference principle. This is

reminiscent of H. L. A. Hart's objection in the form of a trade-off between some liberties and welfare which can be rationally preferable to upholding the difference principle. Cohen rejects the difference principle for its product which is inequality, for him inequality seems unjust whatever its causes (pp. 155-6) because people have, according to Cohen, the capacity to provide work without those incentives which cause inequality. Cohen also maintains that people prefer unequal incentives for reasons of greed rather than to remedy justice through the difference principle, even if it were possible to do so via the principle. Cohen identifies a discrepancy in that, on one hand, Rawls seems to maintain that it is just to remedy differences between people which are morally arbitrary and cause lessening of welfare to some, but then this is supposed to be done by application of the difference principle which is blind to the substance of those differences (pp. 156-7).

It is the veil of ignorance which shields rational actors from knowing the substance of their differences, in the original position. The veil is a device to create impartiality in the model negotiation, Amartya Sen (2002; 2009, 114-52) observes. But according to Sen, there is at least one other way of creating the condition of impartiality, in John Rawls's thought experiment. The main distinction between his and Rawls's approaches to impartiality is, according to Sen, whether a fixed group of rational actors attempts an impartial assessment through denying certain information about themselves (e.g. the veil of ignorance), or through an impartial assessment which is attempted or overseen by a judge figure which is a dedicated entity located outside of the group of rational actors. This figure can be defined as an 'impartial spectator,' the concept of which Sen traces to Adam Smith. Sen's proposal needs to be considered carefully in that John Rawls himself had argued to reject the method of a model 'impartial spectator' (defined e.g. in Rawls 1999, 24) as a feasible universal mode for assessing satisfaction, among individuals. Rather distinctly, Sen seems to suggest that the perfectly rational individual can be sympathetic to desires of others as if they were his own in order to produce a neutral platform for consequent impartial judgements. The practicality of denying specific information is, according to Sen, in attempting to argue a general set of principles which can encompass any entity who is not involved in the process of bargaining, while an advantage of the judge figure is an ability to approach the negotiation from a perspective which is not particular to any one rational actor. Sen objects (2002, 447) against within-group methods of creating impartiality, such as Rawls's veil of ignorance, because they might not insulate against the kind of prejudice and vested interest which is shared by all the members of the society whom the rational actors typify. This, Sen argues, is a grave problem for the thought experiment which is designed to justify principles assuming an attribute of being universally applicable. Sen identifies another instance why the within-group method is insufficient: these are all the cases when a decision

influences the potential size of the future overall population (as arguably issues of social policy do). In this, Sen argues it is morally justified to have the end-state potential population make their decisions on principles as this population interests and interests of its begetters may differ (Rawls however treats this in his theory, see the section 16 of this dissertation). There are also unintended effect of within-group deliberation which have an effect in the theory when extended to international relations (Sen 2002, 448). Sen's impartial spectator, then, is expected to go beyond conventions in his reasoning, and he is required to imagine how would a real spectator with no direct stake in the matter, but one who is constrained by conditions of life, evaluate proposed conventions.

Amartya Sen (2002, 451) evokes the imagery of a 'distance' when viewing one's sentiments with the 'eyes of other people' when quoting Adam Smith. Sen continues to argue that John Rawls uses elements of an impartial spectator when laying out the grounds for the original position which is the phase when the *thin* theory of the good is being set up. In this phase, Rawls establishes the requirement that the judgement of justice needs to represent facts in order to be found reasonable and comprehensible by the public. Such a procedure then prevents influence of vested interests and of entrenched customs and cultural practice. But the veil of ignorance alone does not provide the 'distance' from particulars; it fails to prevent some cultural interests vested in the group of rational actors, according to Sen (2002, 460). Yet in some cases, fairness alone has been observed to reach beyond vested interests and assure a form of impartiality as Robert Houston (2012) noted. Houston observes that fairness is a guiding principle for example in international arbitrations where arbiters need to make decisions tending towards a process which the conflicting parties would accept as fair, and all that in a situation where there is a large disparity between the parties' cultural and professional foresights. Still, for Sen finding common grounds does not seems to be universal enough to determine the primacy of principles; he requires an 'impartial spectator' to achieve impartiality.

Most recently, Jon Mandle (Mandle and Reidy 2014, 128-43) reviews John Rawls's texts to identify the method by which Rawls creates impartiality. In Rawls's argument, Mandle identifies that the presence of emotional disposition, lack of knowledge of available options and bias of one's interests to achieve personal gain prevent impartiality (p. 130). Mandle also traces a progression from Rawls's early methods of assuring impartiality. Mantle finds that, before *A Theory of Justice*, Rawls had assessed these other methods to create impartiality: by theoretically satisfying all desires of rational entities, by theoretically repressing all desires, by requiring reasonableness and sympathetic knowledge, and by relying on a rational and mutually self-interested judges who reflect on principles of cooperation, social mobility and change to improve their stations. Also, the fair play is a duty

which the judges do not choose for themselves, it is understood as a given, in early Rawls as Mandle observes. Only after rejecting these methods Rawls reaches, according to Mandle, a point where he identifies the original position of equal liberty in which there is absence of information, the presence of which could introduce a bias favouring some in certain circumstances over others (p. 133). Additionally, Mandle notes, Rawls barred the knowledge of each individual's conception of good, in the original position. Then, the principles to be discovered are not tied to any particular conception of good (individual aims, life plan), social positions, talent and disposition. Such a veil of ignorance forces these agents, the model rational actors, to arrive at impartial, fair principles. The options for their choice (freedom) then are limited to, according to Mandle, a set of primary social goods by which to weigh and design principles of justice. Such is the priority of justice.

In addition, Robert S. Taylor (Mandle and Reidy 2014, 147-63) examines the priority of liberty reconstructing Rawls's argument on the lexical order of principles. Taylor argues that a rational actor orders his interests in the original position while determining his highest interest as the maximisation of opportunity for pursuing his fundamental interests (liberty). From this Taylor deduces that in principle all other interests come second to liberty (p. 153), for such actors. But Taylor continues to argue that this does not account for establishing the priority of political liberties within the system of political liberties because they are comprehensible only within the particular rationality of promoting a political engagement, which however seems not to be a rational good under all reasonable circumstances (p. 159). Taylor gives an example of selecting one tenth of the electorate by random draw and letting this minority vote in elections in order to create savings in cost while preserving the ordinary plurality of interests. For Taylor, it is not immediately clear why this exchange of political liberty for economic gain would necessarily be unfair exactly when liberty is more expansively construed than political liberty. Taylor finds that, in order to uphold Rawls's argument, political liberties should be found primary in contributing to civil liberties. Yet, it is difficult to imagine how such a priority rule can be established behind the veil of ignorance, that is without being able to assess, as H. L. A. Hart has noted, the full effect of liberties.

19.2. Bias against Virtue

John Rawls's *Theory of Justice* displays shortcomings, as indicated in the previous section, and which pertain directly to the examination of political nepotism, in this dissertation. Overall, the collected objections seem to relate to one unintended and previously unexplored limitation of the theory which will be called a *bias against virtue*. The hindrance seems to emerge from the particular setup of Rawls's original position. It is specific to the conditions through which the original position obtains

impartiality. Without any doubt, impartiality is the key aspect of Rawls's thought experiment as it ensures fairness. The method by which Rawls suggests to create impartiality is a denial of the kind of specific knowledge of personal circumstances which would make the position in the negotiations of some rational actors unfairly advantageous compared to others. From this, it *seems* to follow that if such knowledge is barred from the original position (a voluntary ban to which rational actors agree), the process of negotiation on constitutive principles avoids bias, it is impartial, and it produces principles fair to all. Now then, the process by which the knowledge is denied is the veil of ignorance. The veil prevents all knowledge which is advantageous to some, in negotiations. Rawls establishes a test to identify precisely the kind of knowledge to ban from the original position. Rawls argues that the veil bans that knowledge, the possession of which by some results in a set of principles which differs from a set achieved when the knowledge is available to other rational actors, in their negotiation (Rawls 1999, pp. 16-7 and 120). This is an example of an applied test of admissibility of information, given by Rawls: in one case, the wealthy rational actor knows his wealth and the poor does not, while in the second case the poor knows his privation and the rich does not know his luxury. In the two cases, the agreed upon principles to redistribute welfare will differ depending on the admitted knowledge, the first will favour the rich, the second then the welfare of the poor. Therefore the knowledge of personal wealth fails the test; it does not quality to be admitted into the original position, according to Rawls, and rational actors agree to shield away from it behind the veil of ignorance.

The issue in this dissertation is that there is one *exceptional* class of personal attributes which fail John Rawls's test of admissibility; but banning this class brings undesirable consequences for Rawls's theory. Consider that in one case a rational actor knows the relatively high level to which he is altruistic; he shows a high level of disinterested and selfless concern for the well-being of others. In the other case, another actor knows his relatively low level of altruism. The resulting principles to redistribute social goods will differ in each scenario. In the first scenario, the agreed-upon principles of justice might be more altruistic, in the second they might be less so. Therefore the knowledge of altruism, and similarly for example of honesty or tolerance, fails the test. The knowledge is barred from the original position because it causes differences in outcomes of Rawls's thought experiment depending on it being admitted. But, it can hardly be maintained that a knowledge of high levels of altruism, honesty and tolerance causes unfairness even though excessive selfishness, dishonesty and intolerance do. Even though these virtues and corresponding iniquities have asymmetrical effects on fairness, the effect of the veil is symmetrical on both sets of moral traits. *The veil bans vices and virtues alike*. The veil prevents information which has the effect of exaggerating any differences, be it

differences caused by different natural endowments or be it the variable capacity to beneficent and supererogatory acts even though such variances might have no bearing on fairness whatsoever. The same argument seems to apply perhaps to all expressions of virtues which, Rawls might argue, are expressions of considerate civic duties. Then, such an indiscriminate ban in the form of the veil of ignorance may make the negotiation in the original position easier, as Rawls notes, but its existence has no ground in the protection of fairness. This blanket prohibition might even cause an inconsistency, in the theory. And, this is the root of the theoretical hurdle examined in this dissertation: Rawls's veil attempts to deny all information of virtues to avoid causing bias, including that information which creates a sort of positive bias. For this reason, the effect of the veil is dubbed here as a *bias against virtue*, and this bias is an unintended consequence of Rawls's condition which states that no one is allowed to know his conception of the good (Rawls 1999, 118) when discovering the difference principle in the original position.

In order to uphold the internal consistency of Rawls's argument, there must be at least one situation when Rawls's blanket ban on the knowledge of virtues is not observed; and so this method may perhaps alleviate all bias against virtue. Seemingly, if all virtues are personal goods then all virtues are banned because the knowledge of all personal goods tends to skew impartiality, in the original position. Yet, this is not the case for Rawls because he relegates some goods, such as beneficent and supererogatory acts, to the *thin* theory of good (Rawls 1999, 340), and therefore he admits these virtues into the foundation of the original position. His argument is outlined on pages 384-5 of *A Theory of Justice* (Rawls 1999). Rawls admits that beneficent acts are not 'natural duties' (unconditional duties which are covered in the *thin* theory of good, see Rawls 1999, §19) because they promote other people's particular conceptions of good and one is at liberty to do or not to do them. But since these virtues comply with a particular rendition of the good covered within the principles of justice already arrived at, they are justified. For example, Rawls defined a supererogatory act as the kind of beneficent act which brings harm to the agent's self-interest narrowly construed; as such, it can even be contradictory to a natural duty to prevent harm from oneself. Still, the supererogatory act is justified despite impairing a natural duty which is argued to be unconditional, earlier in the book (§19). Compliance of such personal virtues with reasonable personal goods protected within the liberal domain then sufficiently justifies these virtues, according to Rawls. Thus, Rawls's theory justifies these virtues in a roundabout way, outside of the veil of ignorance and within individual liberty. The issue treated in this dissertation is then whether such a justification based on the primacy of principles of justice creates a reasonable method to solve conflicts of such non-natural yet *thin* and therefore *primary* virtues with civic duties, that is with those

duties which are induced directly from the principles of justice and which remain *secondary* to the *thin* theory of the good. It seems such conflicts are treated with a reference to prudence, only.

Before proceeding with an analysis of this discrepancy, it is useful to review arguments presented in the previous subsection and which outline the compound criticism. The veil of ignorance is a powerful metaphor which establishes the process of reflective equilibrium and makes constitutional deliberations accessible to the lay public. So that it requires a careful consideration whether it needs to be amended at a risk of diluting the narrative force of the original position. Then, the task at hand is to examine whether there is an issue in the theory causing a logical discrepancy between its explanatory force and empirical observations, whether the discrepancy can be empirically observed, and whether there is a plausible adjustment of the theory which corrects this inconsistency.

Jürgen Habermas's observation is that the rational actor in John Rawls's original position does not represent a citizen because he cannot be expected to make judgements which are morally appealing to the citizen due to being denied information about his specific affiliations. Habermas takes this information as indispensable for making judgements of merit or demerit. Rawls offers a solution which is to relegate some judgements of merit to the process of reflective equilibrium while appealing to the moral neutrality of procedural justice. The principles of procedural justice are discovered in the original position, and they create a framework in which everyone can present his or her case, good or moral judgement, in a fair manner, Rawls argues. My proposed understanding of the problem as a lack of knowledge of one's virtues in the original position is compatible with this objection of Habermas's. Rawls's method of reconciling individual virtues with principles of justice in the follow-up process of reflective equilibrium maintains a selective primacy of the civic duties over some non-natural yet *thin* theory virtues, and Rawls's method does not address the draconic (in terms of fairness) restriction on knowledge in the form of a bias against virtue, in the original position.

Ian Shapiro's objection derives from the concept of an overlapping consensus. In it, all persons can reach an identical opinion which is in support of principles of justice by arriving to this conclusion while following rational arguments based on reasonable yet incompatible premises stemming from their individual goods. Shapiro claims that if there is a better principle, then such an overlapping consensus would be defined with a reference to it. For example, the overlapping principle is not defined in terms of the veil of ignorance because the overlapping consensus does not need to enforce a lack of knowledge of one's virtues. John Rawls argues that all which the overlapping consensus requires is a shared acceptance that people's conceptions of justice differ (Rawls 1999,

340). Then, Shapiro argues that arriving at an identical support of principles of justice through a weak consensus however seems, at the same time, to require a popular subscription to the *thin* theory of good, that is for example to the principle of impartiality, plurality of moral values and moral arbitrariness of natural endowments. This is not the empirical case, for Shapiro, not all people who are reasonably capable of an overlapping consensus will have their systems of values correspond with these principles. Rawls would perhaps object that the lexical priority of principles of justice and reflective equilibrium solves this discrepancy. But then, following Shapiro's argument, a lack of knowledge of one's virtues due to the veil of ignorance is an unnecessary restriction if an overlapping consensus and reflective equilibrium can help reach the requisite level of adherence to the principles and *thin* theory of the good. The veil of ignorance does not contribute to the reflective equilibrium in this case, and its side-effect of causing a bias against virtue is unjustifiably excessive.

This argument is perhaps better seen in the case of moral arbitrariness of natural endowments and some types of re-distribution of wealth. Shapiro argues that people might not adhere to Rawls's difference principle – that is to favour the least advantaged because there is no moral obligation attached to anyone's natural endowments – when finding fair certain policies which prioritise welfare at the cost of lessening some liberties (i.e. reverting Rawls's lexical rules) or which cause large redistributions for achieving a marginal gain for the least advantaged. Though Rawls treats both of these cases as examples of a conflict of liberties (in which sustenance takes priority over the freedom of speech, for example, or that a marginal gain is not a compelling reason for political action), Rawls's argument is perhaps not the most parsimonious when it requires a roundabout adherence to an arbitrariness of natural endowments. Perhaps, these are the cases when simple virtues, such as a communal disposition, selflessness or religious duty, give a more feasible and straightforward explanation of the moral sentiments requisite for justifying Rawls's proposed political stand. Further, Shapiro finds that in many cases a possession of natural endowments just *feels right*. According to Rawls, one requires a just system of fair ownership to feel this rightness, but this seems to stretch one's imagination especially when smaller and less significant objects are considered. If one makes himself a walking stick, even if he takes a bough from someone else's tree, he can hardly give up the feeling that the little craftsmanship he put in working the stick and removing all twigs is his. But under a veil of ignorance, he blocks out these sentiments, which seem universally felt, due to the alleged moral arbitrariness and in order for the sentiments to be replaced by theoretical principles to the identical effect but which require a tedious justification which is well out of proportion to the petty object in question.

Notwithstanding, if there is an undisputed entitlement to the produce of one's natural endowments, then a dispute between Rawls and Nozick registers a winner. It was Nozick who originated an argument, which Habermas has pursued since, in that the veil of ignorance takes away the knowledge, in this case of entitlement, from the rational actor, and then this lack incapacitates the actor's ability to achieve morally relevant principles of cooperation, that of a justified environment in which a voluntary exchange of his produce can take place. Nozick's argument has had a serious consequence for the theory. Nozick argues that it is outright impossible to set up the original position along Rawls's rules. If an ownership entitlement is a primary good, then the reason for calling on an original position to divide the spoils of social cooperation due to alleged moral arbitrariness of natural endowments is inconsistent on moral grounds, and therefore entitlements diminish an appeal of the original position as a device for reaching a reflective equilibrium with principles of justice. Rawls himself backs away from the full implication of the arbitrariness argument which is best seen in his treatment of individual talents. Rawls covers for a protection of individual talents against any sort of redistribution by referring to the primacy of liberty which however seems drawn-out. In theory, it should be immediately obvious with no need for a reference to any lexical priority of principles why a person with two eyes cannot be forced to donate one to a blind person, so to speak. Still, Rawls's argument requires the knowledge of entitlements to talents, some other resources or to affections of others in certain circumstances to be placed behind a veil of ignorance. And then, a drawn-out argument is wrought over some duties which are perhaps obvious, at an elementary level, and which do not require a reflective equilibrium to proselytise them among all members of a society, because the public already uphold them, from the start.

Early in the scholarly discussion over benefits of John Rawls's theory, H. L. A. Hart noted another discrepancy in limiting knowledge of the particulars by the veil of ignorance in determining the effect of liberty on oneself and others, in the original position. Arguably, an exercise of some liberties promotes one's good, but when exercised by others these liberties limit one's good. A balance between these two effects of liberty is necessary to sufficiently evaluate such liberties, in the original position. A plausible fix which all rational actors may agree to is that a knowledge of the effect of liberty on enhancing and diminishing one's freedom can be admitted in the original position as long as it concerns classes of people and not particular rational actor's social stations. This partial lift of the veil of ignorance suggests that a strict denial of any particular knowledge is not reasonable at least in the light of seeking a fair acquittal of the said liberties. Hart however identified another problem which protrudes from the issue at hand: the case when there are two incompatible rationalities, each demanding a liberty in conflict with the other's. Then, these liberties

cannot be contained in one class of citizens, and the device of an internally consistent class fails to provide a feasible solution to assure impartiality (Hart gives the term 'representative equal citizen' for the class). Hart claims Rawls's method does not provide other means to reconcile this, apart of people (and Rawls) to share a latent (sort of a *thin* theory) moral ideal of a 'public-spirited citizen.' Only then, it seems, many possible conflicts between liberties caused by incompatible rationalities will not happen because the ideal already prevents individuals from possessing many irreconcilable though rational convictions.

At the theoretical level, this problem seems to centre on a congruence of the sense of justice and goodness and namely whether it is rational (at least in John Rawls's model well-ordered society) to regulate everyone's plan of life according to justice. Such congruence is needed for the stability of the society which stems from Rawls's original position. Specifically, the question is whether the particular tendency to justice, characterised by H. L. A. Hart as the 'public-spirited citizen,' constitutes a part of the individual's life plans. Rawls argues that justice is congruent with any personal good (Rawls 1999, pp. 497 ff.), while excluding the egoist. The question on congruence is decided when justice is found a sound good to follow by all individuals in the context of Rawls's *thin* theory of the good, under the condition of a full access to information (i.e. no veil of ignorance) after principles of justice are discovered by the way of the original position and after the principles are rationally implemented to manage legitimate individual expectations. Notably, this argument excludes from consideration the mindset which tends to justify all its action in terms of a personal benefit (the egoist). Rawls proceeds to argue that only after a non-egoistic individual is made aware of his affections to other members of a society, he is motivated to act on this affection, naturally. Rawls argues that even though emotions as strong as love and familial bonds may force one's loyalties into various direction, within a society which is broadly just, personal affections motivate individuals rather to pay their due to others and thus to justice (pp. 502-3).

Michael Sandel disputes this account. His reason stems from the primacy of some ends which justify rights for their good effects, in personal psychology. For example a religious person may in Sandel's reasoning reach an overlapping consensus on the principles of justice but his duty is first to God and not to society, even when it is 'well-ordered,' in John Rawls's terms. For Sandel, Rawls's theory justifies the existence of certain moralities (e.g. a religious mindset) while in fact those moral outlooks justify Rawls's theory as a means to their ends – and this seems rather a serious objection regarding the direction of causality. Sandel's approach has some advantages: it seems to solve certain *hard cases* of moral disputes, such as those between the freedom of speech, hate speech and majority moral sentiments, efficiently and with a reference to the moral feelings of a community. What unites

Rawls's approach with Sandel's is however a keen insistence that these cases can be solved through a knowledge of particulars. For Rawls, the solution entails accepting justice as a popular individual good (such as protecting self-respect) for just about anyone who is non-egoistic, for Sandel the solution is in paying respect to others. Here, a bias against virtue of the veil of ignorance seems partly overcome by Rawls's argument that individuals find it rational to subscribe to the *thin* theory of good and various natural duties in the full knowledge of their circumstances (within the limit of a justly ordered society which provides them with a reasonable expectation that others do so, too, as revealed by Freeman), or by Sandel's approach to dismantle the veil and start from particulars when weighing the merit of conflicting issues with a reference to their moral worth. Either way, a congruence with Hart's internally coherent virtues of the 'public-spirited person' (be it part of the *thin* theory of good, self-respect or informed moral worth) seems necessary to complement the *unknowing* rational actors in Rawls's original position.

Other issues are at stake, at the level of individual morals. Gerald Cohen asks whether individuals can be reasonably expected to shape their political preferences according to John Rawls's difference principle of justice, that is in order to increase the inequality of incomes under the condition that it improves the position of the worst social station. For Cohen, it is unreasonable to expect such a moral requirement of Rawls's theory to motivate any political action in a great majority of people, in the modern society. At the theoretical level, Cohen argues that an understanding of the substance of differences between people is required in order to cast a reasonable moral judgement. The difference principle loses its moral appeal because it can serve as a ground rationally to argue in favour of increasing inequalities of income between the few rich (to make them richer) and the rest (to make them relatively poorer) for a good hardly felt by most but only by a few (the poorest). Instead, Cohen observes that society develops patterns of fair re-distribution irrespective of the difference principle. None of these patterns can, by definition, be created while wearing any veil of ignorance.

Amartya Sen's solution to fixing the veil of ignorance is to switch from a device creating impartiality based on ignorance of circumstances to a condition based on the concept of an 'impartial spectator.' Rawls himself has been recorded over the years to ponder several methods of creating impartiality, as Mandle observes. If all that is needed in the original position is a condition of impartiality in order to enable fair negotiations among rational actors, it is perhaps advisable to lift the veil and instead to propose to the rational actors to imagine a remote, objective, disinterested and impartial judge, Sen argues. My question then is whether the first act of a rational common

stance is to relinquish the power of judgement of what is fair and to delegate it to another to wield it against rational actors, in an original deliberation.

Though Amartya Sen's reasons to abandon the veil of ignorance may be dissimilar from those discussed in this subsection, his approach seems particularly effective in determining universally applicable principles which are called for by some of the above mentioned philosophers. By definition, the 'impartial spectator' argues from within the stand which is universally applicable across all rationalities. Perhaps, when rational actors accept such a spectator they admit that there is a uniting set of universal moral values, outright at the outset of a theory. From Sen's argument, it is not clear however whether they do this in a leap of faith or through a rational deliberation. Though Sen has spent considerable time developing this idea, it seems hard to get over its first hurdle: an independent judge can work miracles when rational actors are made willing to accept such a figure. But then diminishing rational choice amounts to losing autonomy, by definition, which is an unappealing degradation of the original position's narrative force. Sen's approach however touches on a crucial aspect which seems intrinsic to fairness in the modern world: an adjudication by an 'impartial spectator' provides a method which recognises a chance of an impartial stance in a dispute of rational actors, and this impartiality is constructed from within rationalities of these actors-in-dispute, consensually. After all, Chantal Mouffe (2009) has recently called on Rawls to recognise that the crux of politics is dispute. In this sense, Amartya Sen can rather be understood as proposing a downscaled version of an 'impartial spectator,' a device of a rational beholder's perspective of oneself which stipulates that either there can exist an impartial perspective shared by all or rational actors are capable of comprehending themselves through concerns of others as if others were themselves.[8] But without preserving autonomy of rational actors, neither the 'impartial spectator' nor such a 'beholder's perspective' can lead to impartial negotiations, in an original position, even though both create impartiality without a need for Rawls's veil of ignorance.

Now, if there is a bias against virtue in Rawls's original position, what is an enhanced original position avoiding such a bias going to be when it needs to be compelling and voluntary?

19.3. Impartiality Through Arbitration

Should John Rawls's thought experiment of an original deliberation benefit from impartiality while avoiding the bias against virtue, mere lifting of the veil of ignorance is not sufficient. Rawls's impartiality test does not fail to indicate some knowledge which leads to bias and harms fairness.

[8] Thomas Scanlon (1998, 170-1) traces the notion of 'stepping into someone else's shoes' to Immanuel Kant and stipulates that the sensible question to ask in this thought experiment is one regarding principles which all would accept and not one inquiring which particular desires is the other willing to satisfy.

The knowledge such as the knowledge of one's wealth can cause bias in negotiations. The downfall of Rawls's test is however its inability to sufficiently discriminate the knowledge which causes any partiality from the knowledge which has no damaging effect on fairness. The table 6 outlines characteristics debated above and which are required of a device to create impartiality, in an original position. The veil of ignorance is the device proposed by Rawls, a beholder's perspective is a downscaled proposal of Sen's to perceive oneself through other people's eyes, and arbitration of equals is another method proposed here to settle a dispute. What follows is a sketch of a hypothesis and not a full thought experiments; but this sketch should be sufficient to move this dissertation towards a hypothesis to be tested in an empirical setting.

TABLE 6 Enhancing the original position by avoiding a bias against virtue

Test	Veil of Ignorance	Beholder's Perspective	Arbitration of Equals
Impartiality	✓	✓	✓
Autonomy	✓	✗	✓
Good-neutral	✓	✗	✗
Good-relative	✗	✓	✓
Altruism	✗	✓	✓
Moral Person	✗	✗	✓
Overlapping	restrictive	?	✓
Arbitrariness	disputed	✓	✓
Entitlements	✗	✓	✓
Shared Morals	✗	✓	✓
Congruence	conditional	✓	✓
Social Justice	✗	✓	✓

In the outset, it is necessary to establish that the three devices have a potential to contribute to impartiality, in an original position. Rawls chose the veil of ignorance to this effect. The beholder's perspective allows a rational actor to comprehend the harm his demands may cause to others as if they were himself. The beholder's perspective might not perhaps constitute a compelling reason to act on such a knowledge, but it might be sufficient to relate reasons for conflicting demands between actors and create a common (mutually impartial) ground for negotiations. In an arbitration of equals, impartiality is required by conflicting parties which reach a shared intention to agree on principles to solve the conflict raging between them. It does not seem to matter what exactly compelled rational actors to enter an arbitration, be it Rawls's demand to solve the problem of arbitrariness of natural endowments or some other reason or tendency.

Then, there is the effect on autonomy, the free will of the rational actors, by the three devices. John Rawls's veil does not effect autonomy of the rational actors; specifically, Rawls argues that the rational actors will voluntarily agree to impose it in order to avoid bias in their negotiations. In the

case of beholder's perspective, it may be argued that the rational actors might not agree to apply beholder's perspective on themselves because the actors might want to act for strategic reasons which require unique knowledge and perspective (see perlocutionary speech acts in Austin 1962) – this is the reason for putting a cross sign in the corresponding cell of the table 6 as the rational actors might be *forced* to use the beholder's eye, by Amartya Sen's definition. In the arbitration of equals, no such exchange of strategic knowledge is required, rational actors may be compelled to agree to solve their conflict provided they are compelled to do so, rationally. In this, they need less compelling force to enter an original position than Rawls's actors do: it is enough for them to recognise that they are in dispute which they want to avoid by means other than violence. Rawls's actors need first to accept that there is a moral arbitrariness of resource distribution, then that they want to solve the dispute over resources without the use of force, and then they seem compelled to negotiate over the principles of justice of their cooperation and to enter Rawls's original position.

And, the device to create impartiality needs to have no effect on specific goods or life plans, unless it, in the liberal comprehension, degrades the original position from a deontological (centred on duties with a minimal overlap onto individual plans of life) to a teleological model (attempting to justify the system in terms of particular goods it allows to flourish or prevents from flourishing within it). John Rawls argues that the veil is neutral to the good, this features is supposed to be one of its positive side-effects; as it discharges all information about personal life plans and comprehension of individual preferences, it does not pollute the original position with these concerns. The beholder's perspective and arbitration of equals are not, in this sense, neutral to the substance of the rational actors' goods because both admit the full knowledge of individual substantive goods. This is why there are crosses in the corresponding cells of row 'good-neutral,' in the table 6. But, it is expected that among rational beholders, a common understanding of individual preferences is reached. In the arbitration of equals, both parties acknowledge that the other party holds a different concept of what is right (that is, they acknowledge that there is substance to what each party wants the outcome of the dispute to be). This is why both of these concepts register a tick sign in the row 'Good-relative,' in table 6, as the common good (impartiality) is relative to the particular goods of the parties in dispute. And this is why both can maintain a distinction between the rules of what is right and what constitutes an individual good, to a certain extent. Now, it can be concluded that all three devices can be admitted to create impartiality but that there are doubts concerning the usefulness of beholder's perspective as it seems to create the least compelling reason for the rational actors to accept it as the principle of impartiality due to an unwillingness to share strategic information as the first step leading to an interaction between rational actors who are in dispute. To overcome this

would perhaps require more goodwill than necessary. But in all fairness, the rational actors might be willing to accept the beholder's perspective later, justifying the condition back from the future agreed-upon principles in a reflective equilibrium. Still, the requirement of beholder's perspective lessens rational actors' autonomy at the initial point of the thought experiment, and this diminishes the persuasive force of such an original position which would depend on it.

In the previous subsection, effects of a bias against virtue caused by Rawls's veil of ignorance are expounded. The table 6 contains tests of recognising a bias to virtue in an original position, based on these effects. The tests present themselves as a rundown of effects the veil is intended to create or problems it causes as an unforeseen byproduct of its definition. Now it is found that John Rawls's veil of ignorance rejects virtues such as altruism because they lead to inconsistent principles of justice depending on an availability or unavailability of such knowledge despite no detrimental effect on fairness (row 'Altruism' of Table 6); it prevents rational actors to be moral persons (row 'Moral Person'); it restricts the overlapping consensus to the one situation when a just system is in place in the model well-ordered society (row 'Overlapping'); it is based on a disputed claim of the arbitrariness of natural endowments (row 'Arbitrariness'); it voids what some would term natural entitlements and reconstructs drawn-out and needless reasons for these entitlements (the 'legitimate expectations' argument above, row 'Entitlements'); it blocks the kind of morals which is shared universally from negotiation in an original position (row 'Shared Morals'); it requires one causal direction of congruence of justice as goodness, that is, one leading from the just system to individual goods but not vice-versa (row 'Congruence'); and it ignores some morally appealing methods of increasing social justice by justifying the difference principle which is biased against them (row 'Social Justice').

In this dissertation, there is little space given to beholder's perspective of Amartya Sen and to its effect on avoiding a bias against virtue. What follows is only a brief account of the column 'Beholder's Perspective' in the table 6 to illustrate the reasoning behind tests for avoiding a bias against virtue, in the original position. Due to admitting knowledge of personal circumstances, the beholder's perspective or the beholder's eye, admits the knowledge of altruism and other virtues to the rational actors; but interestingly it will not allow rational actors to become moral persons because they are forced to divulge personal strategic information, under the beholder's eye. A lack of individual autonomy constitutes the case when one's moral responsibility for decisions is likely to be reduced, and thus rational actors might not be considered autonomous moral persons, at the point of entry to an original position. The effect of beholder's eye on the overlapping consensus can perhaps be assessed in a full corresponding theory which is not the subject of this dissertation. Still,

the device seems to be ambivalent due to its relative neutrality to individual plans of life. Still, the beholder's eye does not require an arbitrariness of natural endowments as the chief argument for rational actors to enter an original position; they might want to enter due to a shared human feeling of compassion to cooperate which the actors discover through exercising the beholder's eye. Neither does this device seem to deny all entitlements, because the parties entering can be holding assets and talents, by definition. It allows the discovery of shared moral values before entering an original position. And therefore it seems to allow both directions of causality in arguing in favour of congruence of the liberty and goodness. Same with social justice. If there are methods to arrive at it which are shared between the actors, these methods will be revealed before entering an original position. From all these reasons, it seems that the device of the beholder's eye makes a major non-trivial assumption of the willingness of rational actors to cooperate, of their goodwill, willingness to share even intimate details of their private strategies to exploit the system of cooperation to be constituted; and about the exchange of knowledge of moral sentiments before entering an original position. The concept of beholder's eye will thus not be used, in the following argument, but this exercise has demonstrated that it requires a careful consideration when altering John Rawls's original position.

Next, I consider a scenario in which John Rawls's rational actors are compelled to enter an original position because they want to solve their disputes. Unlike Rawls's own scenario which requires the compelling reason of moral arbitrariness of natural endowments and a recognition of the desire to justly allocate entitlements to the product of social cooperation, at the same time, this scenario requires rational actors only to know that they are in conflict over what constitutes a just relocation of the product of social cooperation. Rawls's model rational actors become model rational parties-in-dispute. They will subscribe to the same notion of equality, self-respect, capacity to rationality and primacy of fairness which Rawls allocates to actors initially before entering an original position. From this, same as with Rawls's rational actors, the parties will want to argue as equals over what constitutes just principles of their cooperation and to promote their life plans to the most reasonable and fulfilling extent. But then, the parties will not pick the veil of ignorance as a constitutive condition of their original negotiation to ensure impartiality. Instead, the rational parties decide to enter an original arbitration. This is a process which is recognised by disputants as impartial, and it is chosen for promoting impartiality. Moreover, the rational parties refuse to refer their dispute to Amartya Sen's higher authority, an objective judge figure, or any other authority than their own because they consider themselves their own judges of merit. Will this original arbitration produce a

bias against virtue which was detected in Rawls's original position? In the table 6 there is the rough idea laid out.

Unlike the veil of ignorance, an arbitration allows the full knowledge of natural endowments, it allows the rational parties in dispute to be moral persons, and it even provides means of proselytising their conceptions of the good (by trying to convince the other party of the reasonableness of one's claim). Under arbitration, the overlapping consensus is not restricted to a model fair system of cooperation (the 'well-ordered society'); if successful, an arbitration is the *expression* of an overlapping consensus, in any system. The device of arbitration can avoid an insistence on the arbitrariness of some or all natural endowments unless the parties agree on such a claim arbitrarily, and same on entitlements to certain or all things. The arbitration even encourages identification of shared morals and working them into principles of cooperation. The arbitration does not restrict justification of the congruence of justice and goodness in either causal direction as some reasons for congruence may come from the system of rules and some from particular life plans of the parties. And in terms of social justice, as in shared morals, anything goes which the parties agree upon in an arbitration. This ease of approach to moral sentiments however asks for a caution due to a seeming moral relativism. And rightly so since arbitration shares this charge with the veil of ignorance because the very intent of the original arbitration is to become a method to understand and improve the social life as a system which allows as large variability of relatively incompatible morals as required by rational actors for them to flourish. John Rawls's method is to discover those principles by a rational and agreeable avoidance of most knowledge of these goods. The method of arbitration is to discover mutually justified conditions under which just principles of cooperation can be discovered. Apparently, an arbitration will succeed in creating impartiality while avoiding the bias against virtue, but it is not immediately clear whether it is as succinct in reducing the complexity of negotiations if all parties seem to be expected to negotiate everything among everyone, a scheme which Rawls avoided, meticulously.

It suffices to say that for next step in this dissertation, another sketch will be drawn, this time of an original position which is enhanced by an original arbitration, before it is established that the method avoids the bias against virtue, in an empirical test. After this, the full extent of the demonstration will be worked into the theory in the final chapter of this dissertation.

20. Enhanced Original Position

When John Rawls's rational actors agree that they are in dispute over social goods and that they want to solve the dispute in a voluntary arbitration of equals, there it follows that this enhanced

original position is populated by rational parties equipped with a willingness to agree on principles but facing a gulf of incompatible expectations and claims. Like Rawls's rational actors, the parties unanimously agree on the same social goods which are called primary because the goods are understood by all to be desirable to all. Rawls identified these primary goods as self-respect, liberty, opportunity, income and wealth. For most, it will also perhaps be a sense of justice if justice is found congruent with goodness in a just system of cooperation. Now, the reasoning diverts from Rawls's. In the enhanced original position, the rational actors agree to admit knowledge of individual circumstances and their perceptions of the good in order to avoid a bias against virtue caused by Rawls's veil of ignorance. At the same time, the actors require impartiality. And so, they choose to become rational parties in an impartial arbitration over the principles of their cooperation. They want to establish this original arbitration before they proceed to discover just principles of their cooperation, in an impartial way. The rational actors choose arbitration because they get to choose their own tribunal; and as any tribunal which is partial to any of the parties will not be agreed upon by all parties, the only option available to them is to agree on the tribunal which will award impartial and binding resolutions of their dispute.[9] That is, any award of such a tribunal is impartial when both parties consent to it. And this is the foremost principle of justice discovered in this enhanced original position: *When rational parties in dispute consent to an award, this award is impartial and fair*. The principle is most prominent because it was discovered and agreed upon by all rational actors who are aware of their own personal circumstances, perceptions of good and all attachments which make them moral persons. Their consent – informed of their circumstances – is fair. This principle is driven by the analysis above which points to a need to establish impartial grounds of fairness in relation to substantive goods while avoiding to work its substance into the scheme of things, in an original position.

In this sketch, it is also necessary to review the rest of Rawls's thought experiment, namely the argument leading to the primacy of liberty (Rawls's 'first principle' of justice), difference principle (Rawls's 'second principle' of justice) and lexical order of principles of justice.

A confirmation of the primacy of liberty is straightforward: the rational parties in the enhanced original position know themselves to be equal and acknowledge that their interest is best furthered through cooperation within a just system. They acknowledge that they share the same interest which

[9] There can be simple schemes to this effect, for example each party agrees on an arbitrator, the two arbitrators agree on a third, and both parties agree that any two of them (i.e. a simple majority of the three) create an impartial award. But it is unnecessary to elaborate on such a scheme in the thought experiment. It is sufficient to define the device of a tribunal as one which returns impartial awards, and that impartiality is determined by both parties in dispute agreeing to that award.

is a fair maximisation of their liberties. This is done, like in Rawls's reasoning, with the full knowledge of personal circumstances.

John Rawls's 'second principle' of justice, the difference principle, needs a careful consideration. It is the direct product of the veil of ignorance and of its ban on all knowledge of personal circumstances and moral convictions. Rawls's difference principle is acceptable to the rational actors who make themselves deliberately unaware of personal circumstances. In order to avoid a harm done to themselves, they legislate that any difference in personal shares of the social goods which are not liberties nor self-respect (i.e. differences of wealth, income and opportunity are permissible) is fair if this difference benefits the disadvantaged in accessing primary goods. All rational actors fear a potential harm from differences in wealth, income and opportunity because they do not know which side of the social bargain they occupy, due to the veil of ignorance. On the other hand, in an arbitration of equals under full knowledge of personal circumstances, justifications of differences are subject to a plethora of competing claims and convictions. But in principle, an award of the benefit of a difference or lack thereof is fair when disputing parties consent to it (the foremost principle discovered above). Therefore, *equally empowered parties consent to different awards in a trade-off of awards*. Similarly to Rawls's difference principle, under the original arbitration, any difference which provides benefits to all parties (i.e. to those who gain from it and to those who lose) can be considered a trade-off which is fair. This principle then retains the same wording like Rawls's 'second principle' of justice, but its content shifts. The arbitration of equals demands that parties having been subject to different circumstances of wealth, income and opportunity are aware also of the benefits this difference awards them in terms of primary goods, in order for the parties to be able to consent to these different social circumstances. This informed consent complements and restricts Rawls's 'second principle' of justice. It also burdens those who claim a large share of wealth, income and opportunity with a duty to justify their share and with providing substantial awards in terms of primary goods to the rest of the society.

The resulting enhanced principles of justice are listed in the table 7, and they pertain to an enhanced original position also called an original arbitration of equals.

TABLE 7 Enhanced principles of justice

	Principle
(1)	An informed consent is fair.
(2)	All have an equal right to liberties.
(3)	The disadvantaged knows his benefit of a difference.

In this reasoning, a lexical order of enhanced principles of justice becomes apparent. In this order, the informed consent is the base of impartiality, an equal right to liberties is the reason for cooperation in a just system, and the knowledge of the trade-off in substantial benefits leads to a conditional compliance to differences. This order constitutes principles of justice which can be worked out without the veil of ignorance and without a bias against virtue. The lexical order establishes a conditional compliance with a system of cooperation based on equitable principles of arbitration. The order demands that those who have less access to wealth, income and opportunities are aware of the substantial benefits this difference gives them because, under the enhanced principles of justice an award from this difference is fair only if consented to by all. This conditional compliance is an image of Rawls's overlapping consensus in that it does not require reasons behind a consensus to be shared among the parties in dispute. It is a restricted image because the conditional compliance expects all parties within their own rationalities to acknowledge limits to their consensus and that these limits can be non-native to those rationalities, that is, the limits can belong to other parties and originate in their rationalities. The conditional compliance based on an arbitration of equals forces the rationalities, which for example benefit the most from a social cooperation, to take into consideration the less-endowed parties to make it their own good to actively contribute to the disadvantaged in order to assure a voluntary cooperation in such a system and to improve social cohesion.

21. Nepotism: Constructing a Test of the Theory

The decision whether to replace the veil of ignorance with an arbitration of equals as the condition constituent of an original position now depends on the demonstration in which each version of original position returns a distinct conclusion, under certain conditions. Once this contrast is established, an observation of facts is made under those conditions and the outcome will determine which of the two versions better complies with this observation. Now, this dissertation considers several model cases and the responses which the two versions of original position may amount to.

Consider this model case, a wealthy man knows he is wealthy and promotes principles of justice which take less wealth away from him to redistribute it, or even he wants no redistribution of his wealth. He may act from an egoistic self-interest, philosophical conviction of entitlement to the fruits of his work, for reasons of class consciousness, his role in history or economic theory. A poor man – whose opportunity to develop and realise basic liberties and his life plan depend on resources which he does not own – objects to this difference in personal wealth. The impoverished demands to increase taxation of the affluent and to divert this resource to him, to improve his lot. Behind the

veil of ignorance rational actors, not having the means to guess whether they are rich or poor, agree to Rawls's difference principle. Under the conditional compliance in an arbitration of equals, the rich party in dispute will yield his position only if the poor party in dispute threatens to walk out of the arbitration. Now, is the rich party held hostage to anarchy? The rich, likewise can threaten to leave the arbitration. There is indeed a point when the rich party threatens to walk out of the arbitration if the poor party proceeds with attempts to redistribute the wealth of the rich which is not acceptable by the rich. In such an extremity, the only trade-off which matters is an avoidance of anarchy, but avoidance of anarchy is not the typical aim of the original arbitration set by rational actors. Obviously, neither gains when they opt out of association, and also both seek a fair settlement of disputes, in their existing circumstances. Presumably, in this model case, none of them is living in a state of nature but rather in a state. Therefore, due to the enhanced principles of justice, both the rich and the poor know that there is a chance for an informed consent between them on the existing difference in wealth and that mutual consent is impartial and fair. In this model case, the rich's trade-off is his wealth, and both parties need to work out what the poor's trade-off is, for the poor to be able to consent to the difference. Or, the rich needs voluntarily to alter the existing difference in wealth and to offer an agreeable trade-off for the poor.

Therefore, under a conditional agreement to their difference, both parties set to work out a balanced deal on taxation and to identify appropriate conditions to maintain a justified difference of wealth. In this case, whatever an acceptable balance in taxation is, it depends on their particular outlooks. After an appropriate scrutiny, it happens to turn out that both are religious and of the faith which demands a duty to help his neighbour and to give alms. Thus, the poor has no ground to harm his rich neighbour when the rich is saying, perhaps reasonably, that his wealth is creating new employment opportunities for the poor, but also the poor may expect the rich to assist him in his more immediate needs. And, the rich, acting under the same religious duty, will not want his poor neighbour's sustenance to fall under a level which they can agree on as being reasonable; and thus a fair deal on taxation is possible to construct within their respective rationalities. This deal on taxation is conditional to them being of the same faith. They however do not need to share religion, one may be a devout person and the other a humanist. Or it can be conditional to their education, or altruistic tendencies, or acceptance of the difference principle for the reasons John Rawls gives. Each of these reasons can set the balance of taxation differently. What counts is that a fair balance is eventually found, acceptable to the parties and conditional to their moral makeup. In this way, the arbitration of equals provides the disadvantaged with a sense of *empowerment*. So far, the veil and the arbitration yield identical results: an acknowledgement that a just and impartial deal over principles

of wealth redistribution can be struck. It remains to be noted that an original position is of course not created to decide problems of taxation, in Rawls's case nor in this dissertation. Still, an original position is a device used in the reflective equilibrium in a well-ordered society, and therefore this model case is informative.

As seen above, the hard model case is usually not the one in which the parties refuse to seek a balance to weigh competing demands of their rationalities. They can hardly refuse to do so because they do seek impartial agreements conditional to their goods, in an arbitration of equals. The hard case is when they cannot *find* a balance, like in some cases which violate the primacy of liberties. Consider that a person at a low end of the social ladder is willing to give up his freedom of speech in exchange for improved sustenance, to obtain more wealth. For John Rawls, this exchange constitutes an off-theory limit, that is a situation in which the model of a fair well-ordered society is inapplicable. Under the arbitration-induced original position, there may be an argument achieving such a balance, even a plausible one provided it is found fair by both, that is by the party which loses the freedom of speech and the party which stands to gain from it. But, imagining what fairness requires from such a deal in an illiberal and undemocratic system is difficult, even under the original arbitration. Solving such a hard case is not necessary for this dissertation, thus I dismiss this case as irrelevant to a theory of liberal democracy.

The hard case to solve concerns existing conflicts of moral doctrines when the model of John Rawls's well-ordered society is applicable. The model case is one when a person is in conflict between her duty as a politician to respect Rawls's difference principle, that is to exercise political power selflessly in the interest of others, and her other moral duties, such as for example being the most exemplar mother in making sure her offspring attains every possible chance to succeed in life. Shrouded in the veil of ignorance, the difference principle demands the duties of a mother to step aside in the interest of all who are less endowed than being by accident a daughter of an exemplar mother who is a power-wielding politician. The choice is purported to be simple for the mother to prefer her civic duty to her familial obligations. Under Rawls's theory of justice, it is fair that exemplar mothers who are exemplar politicians will not promote their offspring to assume political power as long as there are other reasonable candidates to offices of power but who are less empowered by accidents of birth.

In the original arbitration however the mother-politician does not have it this easy. She cannot hide from Rawls's veiled differences when she faces conflicting demands of obligations. In real life, it is perhaps impossible to plausibly split conflicting moral duties to two moral entities within one actual

person. This would require the kind of mental fragmentation into an exemplar politician at one time and an exemplar mother at another which is akin to moral relativism and expediency. The question is whether the original arbitration provides a solution to this class of conflicts of moral duties which the veil of ignorance shields away. When a rational party enters an arbitration and there are conflicting demands made by this party, what are other parties there to do? The daughter might expect that the mother-politician appoints her to a position of power. But then, the daughter when faced with a demand of a less fortunate member of the society reconsiders her demands, conditional to her moral makeup. Then, the daughter might lift the familial duty from the mother-politician, who then acts in an exemplar civic manner and does not appoint her daughter to an office of power. This seems the ideal case when the veiled and arbitral versions of original position converge in one solution.

But, which of these two versions of original position are more plausible? Perhaps what is revealing is the situation when the mother *does* decide to proceed with the appointment of her daughter despite her civic duties. Under John Rawls's original position, she fails to subscribe to the difference principle. Such a mother is unfair and breaks the principles of justice. But, the mother does not obviously proceed for reasons of disparaging fairness. On the contrary, she wants to fulfil her parental duties. In this instance, Rawls's theory is revealed to have little use to the mother-politician in her weighing of conflicting moral doctrines which motivate or bar her action to appoint her daughter to an office of power. It has little to say on how the world of politics is but rather prescribes a norm in the form of an imperative demand to discriminate against her offspring which, in this model case, the mother fails to appreciate. Rawls's theory provides a method of adherence (reflective equilibrium) which fails to motivate the mother-politician who acts against the principles of justice as theorised fairness. Not that Rawls's version of the theory does not admit breaches of civic duties. Rather, his version cannot explain the classical behaviour without casting a blank judgement of demerit on all which it considers as breaches of promise to uphold a fiduciary duty.

Under the original arbitration, this mother-politician is understood to prefer one moral doctrine (her familial duties) to another (John Rawls's difference principle) conditional to reasons particular to her circumstances. There is no claim present in the original arbitration which would cast a moral judgement over her choice or a reverse of it. But, if it is indeed unjust to promote one's offsprings to positions of power when one already occupies a public office, then there must be a compelling reason against doing it. The difference between the veil of ignorance and arbitration of equals is that, in the arbitration, the compelling reason does not seem to rest in theory (which is unlike

Rawls's solution). It rests in an interaction among parties which contest the stance and seek redress which is equally agreeable (found fair) by all concerned rational parties.

This dissertation will test the viability of these two versions of original position depending on the presence of nepotism, in the political system. A wide-spread preference of kin indicates that conflicts of moral doctrines seem to occur and that they seem to be solved in favour of upholding familial duties. If nepotism is found, John Rawls's theory invariably deems the system non-liberal or affected individuals as failing to promote liberty. If this harsh judgement is unheeded while a liberal scheme is maintained due to the system continuing to produce a large number of primary social goods, then a theory based on an enhanced original position is assumed to better correspond to reality. In short, the test is whether an original position based on arbitration better explains a conflict between nepotistic and liberal moral doctrines than by the original position based on Rawls's veil. This test follows the spirit of Rawls's own test of viability of a conception of justice when he reasoned (Rawls 1999, 398) that,

> *However attractive a conception of justice might be on other grounds, it is seriously defective if the principles of moral psychology are such that it fails to engender in human beings the requisite desire to act upon it.*

22. John Rawls's View of Nepotism

John Rawls does not mention 'nepotism' in his *Theory of Justice* in either the original or revised editions (Rawls 1971 and 1999), neither he does so in his *Political Liberalism* (Rawls 1993) nor in the 2001 restatement of *Justice as Fairness*, edited by Erin Kelly. What follows is then a brief attempt to faithfully reconstruct Rawls's opinion on familial values and preference of kin which is based on his mentions of family and analogies he draws of parent-offspring relationships to illuminate his theory (Rawls 1999).

22.1. Collected Notes on Nepotism

For John Rawls, it is plain that rational plans of individuals living in a society ordered according to the principles of justice will be consistent with those principles, unless the plans, preferences or moral values are irrational (Rawls 1999, 373). This makes familial values of affection and friendship, though prominent in people's lives, secondary to justice as fairness as they are realised only within the boundary which justice permits. Straightforwardly, Rawls claims that sometimes there is a temptation to act unjustly when people want to attain and preserve familial values, and that any digression due to familial values and violation of the principles of justice is unjust. There is nothing

inherently unjust in the values, according to Rawls, so it seems that it is the digression which makes acts motivated by them unjust at the point of trespassing on the domain of justice.

From the systemic point of view, Rawls finds some effects of familial values as contributing to justice: attachments and associations, which are harboured in one's family, can exaggerate feelings of guilt when one acts contrary to his sense of justice and injures people in his commonwealth, as if injuring members of his family (Rawls 1999, 391). Here, the guilt based on affections leads one to act in accordance with principles of justice. This exaggeration of obligation seems always to apply when one is acting in order to promote the welfare of those whom he is attached to. This then provides an insight why any conflict between one's civic duties and his familial duties can be intensive, emotional and difficult to resolve, in an individual. Rawls sets a limit to the legitimacy of these feelings when he claims that the shame for immoral acts and guilt of injury involve one's relation to others when these are an expression of his acceptance of principles of justice. But here, in Rawls's account of a conflict between civic and familial values, there seems to grow a discrepancy because feelings of guilt and moral decrepitude are rather more relative to a distance of emotional attachments and less relative to principles of justice. Guilt seems to occur always when one favours those to whom one is less attached emotionally to those who are closer to his liking. Then, the fear of guilt for breaching Rawls's principles of justice (a breach of duties to those who are emotionally more distant) will perhaps not guide everyone to behave in accordance with the principles because, as Rawls admits, they are already tempted to act unjustly in order to improve the immediate welfare of their dependents, that is they are tempted to perform for example nepotistic acts. In theory, the nepotistic act can be understood to be an expression of an intensive loyalty to family at the cost of a neglect of a less intensive loyalty to the community ordered according to Rawls's principles of justice.

What follows are specific mentions of various expressions of familial values which John Rawls makes to develop the point made above. Being a 'good father or wife' is an expression of virtues which belongs to the full theory of good, according to Rawls (Rawls 1999, 355). Here, Rawls creates an analogy with a 'good judge' who is expected to act impartially, decide fairly and with a strong desire to deliver justice. From this Rawls argues that the concept of a 'good father or wife' presupposes principles of what is right. When goodness as rationality holds for these concepts of moral worth, then it is rational to hold these values. It is rational to hold them when it is rational for people to want them in one another when they adopt particular points of view (an exercise behind the veil of ignorance, the *What if I were X*.), that is impartially. Similarly, Rawls uses the imagery of a good father who decides on behalf of his offspring when subscribing to the principles of justice 'as

for their good' (p. 183), in theoretical intergenerational conflicts of interests. In discovering the 'just savings principle,' Rawls also draws on relationships of fathers within their genealogy (p. 256) and suggests a balance which leads to impartiality. This principle claims that one's duties and expectations, when deliberated under the veil of ignorance, extend in both directions of his ancestral line, that is from fathers' duties due to children and grandchildren to the fathers' claims made to their own parents and grandparents. For Rawls, even when familial values are in conflict with his principles of justice then impartiality is still possible: by balancing duties or with the help of the veil of ignorance exercise.

For John Rawls, familial values can be treated like values of an association (Rawls 1999, 409), that is like of a hierarchy of stations with distinct rights and duties. Values of such associations are enacted within principles of justice (p. 414). Then, effects of any such association can be positive and negative depending on its relation to the principles. This allows Rawls to summon the model relationship of parent-offspring and of familial duties which become the foundation of all moral political behaviour (p. 405), in a well-ordered society. The monogamous family is a major social institution, for Rawls, at par with private property, competitive markets or liberty of conscience (p. 6). But the existence of the family prevents the perfect application of a fair opportunity (p. 64), and so it is a contingency to be neutralised by the veil of ignorance, for Rawls. Rawls cites family and class origin as one of the three most important types of contingencies affecting the disadvantaged (p. 83). The 'fortunate family' is than Rawls's expression which typifies an undeserved entitlement (p. 89). Yet, for Rawls, the environment within a family is typical of rejecting the doctrine of self-interest and exploitation of others, and instead it promotes the interest of the whole association; and so the family serves for Rawls as a case when the difference principle is enacted in the real world, that is with the full knowledge of personal circumstances and social stations (p. 90). In addition, Rawls demonstrates that in a situation when self-respect cannot be obtained from a fair political participation, one can still generate self-respect or notion of self-worth from his familial association and company of friends (p. 205). This suggests that the family occupies the key position in anyone's realisation of self-respect, the primary social good which Rawls's theory praises most highly. Even though the family, for Rawls, can be a barrier to equal chances between individuals in the well-ordered society (p. 265), Rawls cannot find enough reason to reject it, in the context of his theory (p. 448). This ambivalence is expressed at the level of Rawls's principles of moral psychology when he claims that if 'family institutions' are just, loving parents can bring their child to love them (p. 429). Now, if family can serve as a source of (albeit limited) self-respect without reference to a well-ordered (that is just) system then the familial justice is self-contained and it does not need to

depend on Rawls's principles of justice. Or, the family can be just only when it complies with Rawls's principles of justice, but then children of loving parents in families which act contrary to the principles would not be able to learn to love their parents due to Rawls's principles of moral psychology. Neither of these options seems favourable to Rawls's theory, and each case indicates a defect irrespective of how attractive Rawls's principles of justices may seem. A plausible rendition of preference of kin is then called for.

22.2. Plausible Rendition of Nepotism

In the context of John Rawls's *Theory of Justice*, nepotism can be understood as a behaviour motivated by a moral doctrine which is the loyalty to kin or a parental duty to enhance the well-being of offspring. The impartiality brought about Rawls's veil of ignorance bans any loyalty to kin from the impartial reasoning over the principles of justice causing Rawls's principles to take precedence over such a loyalty, by definition. This however makes the theory biased against the virtues which the loyalty can create. Rawls attempts to justify those virtues, such as a promotion of the good of the offspring, in relation to his principles when he traces the development of a proper sense of justice to the only admitted model family, which is an association the members who act according to the principles of justice. This is not sufficient. This neglects the autonomy of those familial virtues which are congruent to civic virtues but which do not originate in them. For example, such a virtue is the capacity of family to contribute to one's self-respect without any reference to an overarching social system be it the system of justice as fairness or other. If the legitimacy of loyalty to kin then is based on a direct contribution to primary social goods of the promoter of it, Rawls's theory bans its political expression in the form of nepotism and in so doing the theory fails to act according to a concrete moral psychology, despite its attractiveness or due to its drawbacks upon reflection.

This dissertation does not seek any justification of nepotism, that is any justification of political appointments of kin or of presence of kin in positions of political power, in a liberal democracy, but rather to the contrary. This dissertation attempts to demonstrate that if there is nepotism in a liberal democracy then John Rawls's theory does not explain it plausibly due to a bias to virtues brought about a veil of ignorance, in Rawls's original position. When performing a reflection and reaching an equilibrium of one's values and Rawls's principles of justice in the case of a conflict between what impartial public service and preference of kin require, Rawls's theory seems not to be very informative for individuals. This dissertation asks that when an individual's action is motivated by familial loyalties, which however create self-respect independently of Rawls's principles of justice,

whether it is reasonable to expect, as does Rawls's theory, from this individual to gather enough will to change his mind and then act contrary to his earlier loyalties, by the process of self-reflection. The likelihood of such a self-imposed moral U-turn can be determined from observation. This dissertation quantifies such a likelihood, in the next chapter. Next, there follows the test of John Rawls's theory in reference to a conflict between civic duties and individual preferences, in the political sphere.

22.3. Nepotism as Civil Disobedience

Rawls himself examines the conflict of duties as demonstrated in civil disobedience and conscientious refusal (§§55-9), under a caveat of the well-ordered society. For Rawls, a conflict of duties can be dealt with according to their relative contributions to a promotion of liberty. That is, crudely put, if civil disobedience leads to better promotion of liberty than the existing system, then the disobedience is justified. Then, the system of rules (institutions) is required to reflect these demands for more justice. When disobedience is taken to contain acts of political nepotism, or preference to kin in appointments, one can argue that these acts based on duties can be justified as long as nepotism improves justice. At its face value, this proposition seems abhorrent. But, this proposition may perhaps contest the situation when the government introduces a measure which forbids all occupational following to rid the state administration of all relations, indiscriminately. Then such a policy can be found draconic as it does not improve access to primary social goods to the least advantaged, and therefore it obtains no justification from principles of justice. Yet, Rawls narrows down the scope of correctives to violations of justice, that is civil disobedience is most clearly required in situations when a policy of government impairs basic liberties or equality of opportunity (p. 327). Under such a restriction it is difficult to envisage that any defence of appointment of kin can be based on it improving fairness through the difference principle, in Rawls's theory.

CHAPTER IV. TESTING THE THEORY

This chapter examines empirical evidence of kin-like relationships among politicians by examining frequencies of identical surnames (isonymy). Methods of isonymy, boosted by findings from the biological sciences and DNA examination, provide a convenient testing of genetic similarity between groups in societies where surnames are inherited in the same manner as the Y-chromosome, from father to son. A comparison between the surnames of a cohort of political office holders and their electorate can indicate whether the politicians are more interrelated than might be expected as a result of chance. This chapter documents statistically significant observations of consanguinity among Czech politicians. Observed surname frequencies provide evidence of consanguinity larger than that which is expected, and there is evidence that the politicians are genetically more homogeneous than is expected. There are additional datasets examined for traces of consanguinity. These are judges, notaries, civil servants and attorneys.

23. Hypothesis and Expected Conclusion

As outlined in the two chapters of this dissertation on John Rawls's *Theory of Justice*, it is an established theoretical expectation to observe no evidence of nepotism in a liberal political sphere. Then, if there is nepotism present in the system the society is not liberal; or if there is nepotism present while the system continues to provide liberty then the theory needs to account for it. There is *circumstantial* evidence that political office holders are related to one another more frequently than is the case among their electorate. Then, a loyalty to kin shown in the political sphere and its effects in a liberal democratic state create a distinct research question. This chapter examines *empirical* evidence of kin-like relationships among public office holders, in the Czech Republic. The outcome of this research is a statistically significant observation and judgement cast on this evidence.

There are various ways to assess nepotism, in a group of people. Some researchers rely on conventional survey tools such as questionnaires (Van Liefferinge and Steyvers 2009; Van Liefferinge, Devos and Steyvers 2012), others on genealogical data (Kurtz 1989), public registers of familial relationships and personal identification numbers (Amore and Bennedsen 2013; Sundell 2013), parish registers (Lipp 2005), or the study of identical surnames (see the section on isonymy below). It is also informative to correlate political nepotism with corruption indices, or politicians' kin with civil service appointments. In this chapter, politicians will be examined in comparison to the population genetic make-up, in order to assess consanguinity which is an indicator of nepotism. An affirmative finding provides a substance to analyses on how moral conflicts are solved when an illiberal bias motivates a politician to promote his own kin while the liberal systemic doctrine is theorised to oblige him to act against this personal interest. This research can contribute to

improving models of liberal society by proposing to solve the class of political conflicts which concern propagation of non-liberal moral doctrines, in the liberal political sphere.

This research is based on the study of isonymy, that is frequencies of identical surnames. The chief assumption is that identical surnames among individuals may indicate consanguinity or other forms of familial relationships among them, such as between spouses and among direct descendants sharing surnames. Obviously, not all identical surnames indicate close kin of their bearers because some isonymy in the population occurs by chance among polyphyletic surnames (identical surnames of unrelated origins). Here, this is reconciled in a conservative manner when the population surname frequencies are taken as the reference for determining the expected isonymy for a group of any size should it be randomly drawn from this population. Even though observed isonymy at the expected level may already indicate consanguinity in a group, nepotism is deemed confirmed only after the observed isonymy for the group is computed to be too large relative to the expected consanguinity. In other words, the expected isonymy in a group is assumed to be a result of pure polyphyletic origins of surnames, and this is why it is conservative because this assumption disregards for example isonymy of rare surnames which usually indicate kin. In the case of Czech political office holders, the control group, which helps minimise spurious results, is in principle the electorate which is here represented by the Czech population.

It is apparent that ascertaining levels of political nepotism from surname frequencies, albeit conservative, is hindered by a lack of knowledge of the politician's motivation and his or her actual acts which promote kin. Therefore, the aim of this chapter is to establish whether there are observable effects *akin* to political nepotism, that is a consanguinity and close familial ties among public office holders. This is determined when observed frequencies of identical surnames of office holders follow a different pattern from that which can be expected by chance. This research attempts to contribute to the discussion about the causes of these observations, effects of free elections on nepotism, political candidate nominations, occupational following and the class of political elite..

24. Complementary Research

It has been consistently observed in Western liberal democracies and in the USA that occupational following among judges (Kurtz 1997), public administrators (Scoppa 2009) and even politicians (Dal Bó, Dal Bó and Snyder 2009) is frequent at the rates comparable for example to the high occupational following in family-run farms. This and historical evidence from the earliest democratic regimes in the central European region (Lipp 2005) suggest that occupational following

in offices of power and state can be a strategy entrenched in the Czech habit and political culture. For this reason the Czech Republic is theorised to show favouritism to kin, in public offices and appointments. Further, occupational following observed in offices of a liberal democracy can be treated as an evidence of discrimination, provide unfair advantages and opportunities which are handed down by those in power to their kin.

The Czech Republic has been argued to be prone to political corruption on the ground of its communist past, tradition of political patronage, and a lack of engrained civil and liberal values (Reed 1996). Currently, the public procurement process is seen as creating unfair, criminal and ample opportunities to personal gain (Smith 2010) as some 40 percent of the public purse is redistributed to contractors (Ochrana and Maaytová 2012). František Ochrana and Alena Maaytová argue that in the Czech Republic, costs of public procurement can increase due to a lack of procedural transparency, limited information on public tenders, detachment between procuring and consuming units, bribery and excessive bureaucracy (p. 735). What constitutes acts of corruption is a manipulation of these inefficiencies to achieve an economic gain for a politician, civil servant and linked benefactors. Inefficient procurement (the difference between audited and incurred costs) indicates for example corruption in large scale construction works (Kenny 2008, 83). But, evidence of political corruption is however rather circumstantial and indirect. For example, several major Czech political parties reminisce the practice coined as *rotten boroughs* in that the parties seem to aggregate sparse clientele for a party patron to enhance his or her candidacy and eventual political appointment (Klíma 2013, 217-9). The political patron then can be argued to feel obliged to exert influence over public procurement to divert resources to his clients. Even though the extent of such processes is undocumented, it is reasonable to assume that such clientelism permeates along kinship ties.

Recently, Šípoš and Spáč (2013) of the Transparency International have discovered that 20% of Slovak judges (277 of 1,383 Slovak judges) self-reported other relatives working in the Slovak judicial system. Since Slovakia and the Czech Republic share similar legal and cultural heritage, it is reasonable to assess the roster of Czech judges for consanguinity. In the case of Czech civil servants, there is a recent development which invites an analysis of nepotism. The parts 1 and 2 of section 43 of the recently promulgated *Civil Service Act* (2014)[10] states, 'Interrelated civil servants must not be made mutually subordinate, must not control each other financially and must not audit each other's

[10] In Czech, the law states: '(1) Státní zaměstnanci, kteří jsou sobě navzájem osobami blízkými, nesmějí být zařazeni ve službě tak, aby jeden byl přímo podřízen druhému nebo podléhal jeho finanční nebo účetní kontrole. (2) V zahraniční službě lze podřídit jednoho státního zaměstnance druhému, i když jsou sobě navzájem osobami blízkými.'

accounts [...] with the exception of the Foreign Office [...].' It turns out that this dispensation to nepotism for the Foreign Office civil servants was not present in the original bill (Sklenák et al. 2014, as section 36 of this bill which became section 43, in the law), and it was introduced into the bill during the drafting process no later than by the decision of the Constitutional and Legal Committee of the Parliament's Chamber of Deputies (*Ústavně právní výbor* 2014, as section 44 of this bill which became section 43, in the law). At no subsequent legislative stage was this dispensation challenged, and thus nepotism entered the body of Czech law on 6 November 2014. This statute establishes a reasonable expectation of nepotism to increase in the Czech Foreign Office. Therefore it is useful to measure nepotism among these officials before the nepotistic dispensation enters force by its commencement date of 1 January 2015 (*Civil Service Act* 2014, section 207 on p. 2688).

Therefore, in addition to assessing consanguinity of elected politicians in the Czech Republic, this dissertation will use the same method to established a benchmark assessment of select Czech state officials which are taxed with executing the law. These are the judges, notaries and civil servants. Further, attorneys licensed to practice law will be assessed to determine the *natural* levels of consanguinity which may occur as a result of occupational following, in the legal area. Attorneys are particularly fit for this purpose as the list of attorneys contains also junior attorneys who are in training to become full attorneys. These junior attorneys can be expected to come, to a certain extent, from families in which other members already practice law. Therefore, there is an expectation of confirming elevated levels of consanguinity among attorneys.

25. Isonymy

The method to estimate levels of nepotism among political elites used here is based on the study of identical surnames, isonymy, which has a long tradition in human biology. Isonymy is considered to be an indirect indicator of consanguinity and closeness of kin. In a 2003 review article, Sonia Colantonio, Gabriel Lasker, Bernice Kaplan, and Vicnte Fuster show that isonymy had been used to assess for example migration, geographic origins, cultural homogeneity, ethnicity, inbreeding, marital illegitimacy and disease, in 28 countries. Its remit has widened since (Darlu et al. 2012).

Originally, studies of pedigrees and parish records (Crow 1980; Ellis and Starmer 1978; Stevenson, Brown and Schanfield 1983) have shown that there may be a correlation observed between the frequency of surnames in a population and levels of inbreeding, and that isonymy can serve as a proxy to determining the genetic variance of a given population in societies where surnames are inherited patrilineally like genes are (Lasker 1980) and under certain conditions (Gagnon and Toupance 2002). Several assumptions regarding the study of isonymy have been explored and

criticised, one of which is the premise of monophyly (a single founding progenitor to all people bearing one surname), which can seldom be justified, empirically (Rogers 1991; Rossi 2013, 409). But since the advent of molecular biology and genetic analysis, efforts to determine coefficients between surnames and Y-chromosomes, when both are transferred from father to son, have gained a substantial impetus (Balanovska, Romanov and Balanovsky 2011). For example, King et al. (2006, 384) have concluded that, in the British population, 'sharing a surname significantly elevates the probability of sharing a Y-chromosomal haplotype and that this probability increases as surname frequency decreases.' After analysing Y-chromosome haplogroups (which genetically determine a single common ancestor in each group), others have suggested that men in the Russian population who share a surname that is common across geographically diverse groups (so that the surname indicates a polyphyletic origin) still come from a limited number of founder stock within each group (Balanovska, Romanov and Balanovsky 2011, 430). Men with a common surname (a high overall frequency) and who live in one location are likely to be genetically similar. Currently, it is argued that a monophyletic origin of surnames is present in many groups, with a notable exception of China (Colantonio et al. 2003, 789; Jobling 2001; King and Jobling 2009b, 353-4; Martínez-González et al. 2012; Sykes and Irven 2000; for the Chinese case see Liu et al. 2012).

Though the study of isonymy cannot determine exact levels of inbreeding in most populations (Crow 1980; Ellis and Starmer 1978; Rodríguez-Larralde et al. 2003), it has been suggested, for example in forensic investigation, that a DNA-based surname prediction can be applicable in any society with diverse patrilineal surnames of reasonable time-depth (King et al. 2006, 387; King and Jobling 2009b, 356-7), thus creating probabilistic associations between unique genetic makeup and cultural markers of ancestry in the form of surnames (Presciuttini et al. 2006). In the Czech Republic, Stenzl et al. (2013) have been conducting one such project determining correlations between parts of genes of Czech men and their surnames. It has also been established that isonymy can be used to measure the relationship between any two groups of people (Lasker 1980, 530; Lasker 1985, 22-4; Rodríguez-Larralde 2003, 281). Methods examining isonymy can measure the relative genetic relationship between groups when a single surname progenitor is assumed, relationships through the female and mixed lines are proportionate to relationships in the male line (Lasker 1977) and when there is a limited flow of immigration into the groups (Crow 1980, 13).

The use of isonymy studies in political science is uncommon. However, by studying isonymy in, for example, the United Kingdom, it has been determined that the frequency of surnames is linked to geographic distributions among the UK electorate (McElduff et al. 2008). In this research, plotting Yule's K (a measure of diversity) against the level of surname frequencies indicated outlying electoral

districts. By exploring these cases, researchers discovered cleavages at the constituency level in terms of ethnic origin and a high level of ethnic group endogamy combined with sustained immigration, in the outlying districts. Such observed incidences allow researchers to discover geographic areas of past or future political tensions along ethnic lines.

In the Republic of Ireland, Byrne and O'Malley (2012 and 2013) have used a statistical analysis of surname frequencies and genealogies to help explain the Irish party system, which is theoretically anomalous and cannot be understood by referring to the established comparative analysis of cleavages rooted in national, cultural, religious or industrial revolutions. Byrne and O'Malley have showed a link between surnames of members of the *Dáil Éireann* (the lower house of the Irish parliament) and group divisions which can be traced to the 12th century. Byrne and O'Malley concluded that social divisions pertaining to ethnic self-identification, and resulting in a particular party system, can be older than previously suggested. These old divisions can be influential in current politics even when they are no longer observable among the electorate but perpetuate as sets of particular values via patrilineal transmissions, like family names.

In nepotism research, Stefano Allesina has used isonymy as an indicator of consanguinity when he demonstrated a high likelihood of nepotism among 61,340 Italian scholars (Allesina 2011; Allesina 2012; Ferlazzo and Sdoia 2012). He found that Italian professors feature too few unique family names ('significant paucity') which cannot be accounted for by chance. This indicates that surnames of Italian professors are shared more often than is possible by chance. In the data, Allesina identified a theorised north-south trend with the likelihood of nepotism increasing with closeness (i.e. a decreasing distance of professors increases their odds in featuring an identical surname), and he accounted for the geographic clustering of last names showing a higher likelihood of sharing surnames in Sicily. Fabio Ferlazzo and Stefano Sdoia (2012) proposed to check Allesina's method by analysing the *first name* frequency distribution among the academia which is theorised to be a result of chance, unlike their surnames. In his response, Allesina (2012) confirmed this hypothesis by controlling for an uneven representation of women and men, in the Italian academia. For many scholarly disciplines, Allesina found that the probability of surname-sharing is enhanced when professors work in the same institution or sub-discipline. Prior to Allesina's research, Ruben Durante, Giovanna Labartino and Roberto Perotti (2011) had indicated an increase of nepotism through a study of surname homogeneity among Italian academia between 1988 and 2008 which incurred in areas with a 'low civic capital' and due to decentralisation of hiring policies, at universities. By using the same isonymic method, Anders Sundell (2013) found that the level of nepotism in the Swedish civil service decreased among 9,126 civil servants between 1790 and 1925.

Anthony Greenwald and Eric Schuh (1994) have shown that surnames can serve as a base for analysing an ethnic bias among North American scholars (see also Oates and Wilson 2002). An example of an early application of isonymy to determine ethnic dynamics in central Europe is by Daniela Siváková and H. Walter (1996) who studied identical surnames to assess exogamy rates between German, Hungarian and Slovak populations of *Nižný Medzev*. In Austria for example, Italo Barrai et al. (2000) used isonymy to determine a correlation between distinct genetic make-up and geographical distance. And in western Europe, the occurrence of identical surnames coded by location has been found to correlate geographically with nation states and local languages (Scapoli et al. 2007). Isonymy has also been used for studying occupation following in politics by Dal Bó, Dal Bó and Snyder (2009).

Overall, an examination of isonymy can provide a reasonable indicator of consanguinity and density of kin. And since the study of isonymy does not determine a causal nexus between inherited genes and preference of kin, this dissertation assumes that consanguinity is a result of nepotism in situations where there are means, motive, and opportunity. Consanguinity among politicians would then constitute evidence of political nepotism. This is the *consanguinity hypothesis* considered here.

26. Evidence of Political Nepotism

In this section, it will be determined whether the surname frequency distribution of elected politicians corresponds to that of the population from which they have been elected, or not. Then, it will be shown whether the number of politicians who share identical family names is larger than which is possible by chance, that is whether there are more politicians sharing surnames than which is expected by randomness. Also, it will be decided whether politicians' surnames are more homogeneous among themselves than which can be ascertained from the population. Consanguinity among politicians is confirmed when there are politicians who share surnames more often and their surnames are found to be more homogeneous than is possible by chance. When the observed incidence of identical surnames among political office holders is higher than which is possible by randomness, it is understood to be a result of processes other than chance, and it is presented as evidence of preference of kin, among politicians. In order to create benchmarks, there are additional datasets analysed by using the same method. These are Czech judges, notaries, civil servants and attorneys licensed to practice law in the Czech Republic.

26.1. Method

The method to measure consanguinity is based on comparisons of observed and expected statistics. First, the method determines the probability distribution to create an instrument which allows an

estimation of the likelihood of an observed phenomenon occurring randomly. The probability distribution is obtained in a process of function fitting on samples generated randomly from the population. This method relies on the law of large numbers which is a probability theorem. The theorem states that the larger a number of samples is, the better an average of these observations converges to the expected value expressed by the mean (Agresti 2007, 7). In principle, this estimation is preferred to computing exact probabilities from population surname frequencies because it provides an intuitive insight: observed statistics are compared to estimates which are expected to occur when a large number of samples are drawn from the population, randomly. In any such tests, it becomes apparent that the likelihood of the *observed* phenomenon is compared to *random* evidence, whether the observed phenomenon is common or rare. Also, computing the exact probabilities of surname frequencies observed in a sample is impractical (Rossi 2013, 410) or its approximation is intensive due to the hypergeometric nature of drawing and due to a large number of surnames of varying frequencies occurring in a population (Allesina 2011, 2 and 5).

A measure of isonymy employed here is a sum of surnames which occur once (*rank 1*) and of those which occur more than once (*rank 2+*), in a sample. According to assumptions of isonymy, bearers of *rank 1* surnames are expected to display a large genetic variance. Bearers of different family names are taken as unrelated. The sum of *rank 2+* surnames groups individuals who share their surname with at least one other member of the sample. That is, these individuals are more likely to be kin within groups sharing their surnames than are the bearers of *rank 1* surnames among themselves. This approach has been applied for example by Allesina (2011) who used *rank 1* surnames to infer a reverse of nepotism; and when he determined that surname variance was too low than which may be expected by chance (i.e. he observed too few *rank 1* surnames), he concluded that there was nepotism indicated, in his sample. Similarly, Durante, Labartino and Perotti (2011, 13-5) constructed their index of nepotism so that it distinguished among various degrees of single family concentrations via surnames which repeated twice, three times and so forth (that is, these sum as *rank 2+*), in a sample.

Since the rate, to which identical surnames are a product of polyphyletic origin, is unknown, an occurrence of people sharing surnames (i.e. the count of *rank 2+)* alone is not taken as the indicator of consanguinity, in this dissertation. Durante, Labartino and Perotti (2011, 13) offer to compensate for this unknown rate by offloading their index of nepotism by a specific share of *rank 2+* identical surnames which they estimated from local population rates of *rank 2+* surnames as occurring naturally. Similarly, Allesina (2011, 4-5) proposes to use an expected value of *rank 1* and its probability distribution function as the benchmark of polyphyletic isonymy which occurs naturally.

In order to do so, Allesina determines the expected value of *rank 1* surnames through random sampling among the surnames available to him, in a Monte Carlo method. And, he deems those observed values of *rank 1* as unlikely to occur by chance which fall into the appropriate 0.05-tail area of the probability distribution (Allesina 2011, 2-3).

In this dissertation, the observed measure of *rank 2+* compares to the mean of *rank 2+* values of samples of identical size and drawn randomly without replacement from the population. An attempt is made to find whether the particular sum of *rank 2+* surnames observed among Czech politicians corresponds to the value expected, in the Czech population. Notably, samples of surnames drawn randomly from the population are not independent due to the hypergeometric nature of such a sampling (each person cannot be drawn more than once). The set of randomly drawn *rank 2+* values can be expected to contain ties because a surname count is discrete and the list of surnames is finite. For a large number of draws of large-enough samples from a large population, the distribution of these values may be attested to follow a probability *density* function. In some cases, this is a gaussian curve which is convenient as the function exploits the central limit theorem (Agresti 2007, 7), allows for the intuitive use of arithmetic mean as the expected value, and it permits the use of standardised *z-scores* for assessing the distance between the observed and expected *rank 2+* values. In this dissertation however a reasonable probability density function will not be estimated due to an instability present among randomly generated *rank 2+* values in small samples of surnames. Instead, the probability *mass* function is inferred from frequencies of *rank 2+* values, which are drawn randomly.

Another indicator of consanguinity considered here is surname diversity. For example, King and Jobling (2009b, 352-6) review three studies of DNA in British and Irish men and conclude that the diversity of British and Irish surnames signifies a genetic diversity (see also King and Jobling 2009a). The diversity of surnames and its association to genetical diversity is further explored for example by Martínez-González et al. (2012) in their study of the origin of the name Colombo, by Crow (1980) in estimating gene homogeneity (homozygosity) of children of parents with identical surnames, by Gagnon and Toupance (2002) in examining differences between maternal and paternal lineage diversity of an early Québec population, or by O'Brien et al. (1994, 754) in examining the diversity of Mormon population in Utah. McElduff et al. (2008) estimate levels of ethnic diversity by analysing surname frequency distribution of the British population with Yule's *K* characteristic which G. Udny Yule (1944) has originally devised as a measure of lexical richness (Miranda-García and Calle-Martín 2005).

In this dissertation, when the diversity in a sample of surnames is found to fall too short of an expected diversity for a sample of an identical size, then this indicates a homogeneity of genes, that is consanguinity brought about by processes other than chance. This is determined by computing Yule's *K* characteristic which quantifies diversity or homogeneity of surnames in a group. Yule's *K* gives a characteristic of a distribution of surnames in a group, that is a characteristic variability of surnames as words in a linguistic corpus. In line with assertions made by McElduff et al. (2008), Yule's *K* is taken here as a measure of lexical diversity, and it can be used to estimate the 'vocabulary richness' (p. 189) of observed family names among political office holders. In principle, G. Udny Yule (1944, 53) constructed the characteristic $\{K\}$ so that when $\{f_x\}$ is the number of words occurring $\{X\}$ times and $\{S_1 = S(f_xX)\}$ while $\{S_2 = S(f_xX^2)\}$, his original formula is the quantity (figure 2):

$$K = 10^4 \times \frac{S_2 - S_1}{S_1^2}$$

FIGURE 2 Yule's K, the original formula as developed by G. Udny Yule (1944)

Then, $\{K\}$ is claimed to be independent of the size of sample $\{S_1\}$ (Yule 1944, 53). Yule has introduced the factor of 10^4 to mitigate small decimals. The value of this statistic is approaching 10^4 when there is only one word which fills a text or when there is a single surname shared by all the people in a group, that is when the group is most homogeneous. The value is 0 when all words in a text are unique or when no one shares any surname in a group.

Now, in McElduff et al. (2008,189), the sum $\{S_1\}$ corresponds to the total number of surnames $\{N\}$ in a group of people (Miranda-García and Calle-Martín 2005, 292). Then, Yule's formula used in this dissertation transforms to the formula present in McElduff et al. (2008, 189). It complies with corrections proposed by Miranda-García and Calle-Martín (2005, 292; Yule 1944, pp. 47, 53 and 57), and it is is reprinted below (figure 3) with a slightly adjusted notation.

$$K = \frac{10^4}{N^2} \times \left(\sum_{i=1}^{N} i^2 V_i - N \right)$$

FIGURE 3 Yule's K, formula by McElduff et al. (2008), with an adjusted annotation

The term $\{i\}$ is a surname frequency rank (the $\{X\}$ of Yule's, above), and $\{Vi\}$ is the number of words occurring $\{i\}$-times, that is the number of surnames which occur once, twice, three times and so forth, in a group. The sum $\{\Sigma\}$ is constructed to span surnames occurring once to $\{N\}$-times as

the term {*N*} is the largest possible number of surnames each occurring once {V_i = 1} when all surnames are unique in a group. Similarly to the method of comparing observed *rank 2+* and expected *rank 2+* values described above, the observed Yule's *K* is here compared to values of Yule's *K* computed for samples drawn randomly without replacement from the population. These values are then fitted with an appropriate probability distribution function; and the observed Yule's *K* is then located in the range of this function to determine the probability of it occurring by chance.

Another indicator which has been used extensively to assess variety of surnames and genes in a group is Fisher's α, proposed first by Ronald Fisher (Fisher, Corbet and Williams 1943, 55) as capturing the richness of biological species in a randomly drawn sample. Fisher's α has been used to measure the diversity of genes when family names are taken as representative of biological taxa. Barrai et al. (1992, 371 and 378) have observed that Fisher's α is roughly the inverse to an indicator {*I*}, which is unbiased 'random isonymy'. Barrai et al. stated this relationship as {$I = 1/\alpha + 1/N$}. The term {*I*} is therefore unbiased to sample size. The 'random isonymy' {*I*} gives the probability of any two random surnames drawn from a sample to be equal by descent, and under the assumption of monophyletic origin of surnames this means that the two bearers of identical surnames share identical genes passed on them from a single progenitor. Crow (1980, 8) gives this formula (figure 4) for estimating the unbiased probability {*I*} when {$\Sigma n_i = N$}:

$$I = \frac{\sum n_i(n_i-1)}{N(N-1)}$$

FIGURE 4 Unbiased random isonymy {*I*}, the formula as developed by James F. Crow (1980)

The term {n_i} is the number of individuals with the {*i*}-th name and {*N*} is the total number of individuals in the group. This statistic is a convenient measure of genetic variety as the probability can be transformed in {1 - *I*} to estimate diversity (Alvarez et al. 2010, 834). Then, Fisher's α is estimated as the inverse of a component of random isonymy {*I*} which obtained through {$\alpha = 1/I_{add}$} and added to {$1/N$}; Fisher's α is written below (figure 5).

$$\alpha' = \frac{N}{NI-1}$$

FIGURE 5 An estimate of Fisher's α from unbiased random isonymy {*I*} as proposed by Barrai et al. (1992, 378)

From this it follows that with an increasing diversity (the number of different surnames approaches the number of individuals, that is when the probability {*I*} of randomly drawing two identical surnames by descent tends to 0), Fisher's α is also increasing. This approximation (figure 5) is given here for the convenience of observing the dynamic of Fisher's α. In this dissertation, Fisher's α will be estimated using the procedure *fisher.alpha* provided in the package 'Vegan: Community Ecology Package. R Package Version 2.2-1.' (Oksanen et al. 2015) for use in the R statistics environment (R Core Team 2013). This procedure computes the statistic from Ronald Fisher's log series (Oksanen 2015).

The statistical significance of observing a particular *rank 2+*, Yule's *K* or Fisher's α in a sample is set at the 0.05 level, which is a customary and convenient cutoff level of one-in-twenty to reject the null hypothesis (Fisher 1950, 44). For *rank 2+* indicator, a 0.05-level discrete cutoff value is then set as the right tail of the probability distribution. The cutoff value is the last (largest) value at which the probability of observing this and larger values of *rank 2+* is still more then 0.05. It is the border of the right tail of a probability mass function, in which the cases fall under the $p < 0.05$, that is the sum of these cases occurs in less than 5% of all trials. If the observed sum of *rank 2+* surnames is larger than this cutoff value then the distance between these two values signifies the minimum number of surnames which it would take to transfer from observed *rank 2+* to *rank 1* to accept the frequencies as a result of chance. When this distance is divided by the sample size, it gives an idea of the proportion which allows for a comparison of kin saturation between samples of various sizes. In case of Yule's *K*, the same logic applies, that is the cutoff value borders the *right* tail sum of cases which occur with a probability of less than 0.05. In case of Fisher's α, the cutoff value borders the *left* tail; the reason is that Fisher's indicator tends to 0 when there is the maximum genetic homogeneity, that is when there is close to a 100% probability of any two randomly drawn pairs featuring the same surname (a sample in which just about all surnames are identical). Then, Fisher's α acquires the smallest possible values which are close to 0. The cutoff value for Fisher's α than is the smallest value bordering with the region in which the sum of cases has a probability of occurring smaller than 0.05. This region is occupied by cases which show genes more homogeneous than is possible by chance.[11]

[11] An estimation based on a mass function is used rather than computing the statistical significance of Fisher's α because in its latest iteration, the procedure *fisher.alpha* (Oksanen et al. 2015) lost the capability of determining this significance, in the R statistical environment.

26.2. Data

This section contains a description of data processing, that is cleaning data and priming datasets for analysis. These are the Czech population surname and first name frequencies, surnames and first names of Czech politicians, judges, notaries and attorneys, surnames of Foreign Office civil servants, and dummy sets of surnames and first names of the Czech Republic population. The dummy datasets are identical to the population surnames and first names, and they are used to expedite processing-intensive procedures pertaining to random sampling. The table 8 gives the list of datasets which are analysed in this dissertation. It provides frequencies of $\{n\}$ or $\{N\}$, such as the number of surnames or first names, and the count of nominals $\{s\}$ or $\{S\}$, such as unique surnames or first names, in a group or population.

TABLE 8 Processed surname and first name datasets

	Dataset	n or N	s or S
1	Attorneys' first names	14,968	766
2	Attorneys' surnames	14,958	9,198
3	First names, dummy pop.	10,306,910	21,827
4	Foreign Office surnames	1,987	1,715
5	Judges' first names	3,061	301
6	Judges' surnames	3,094	2,472
7	Notaries' first names	441	126
8	Notaries' surnames	444	413
9	Politicians' first names	2,579	274
10	Politicians' surnames	2,587	2,076
11	Surnames, dummy pop.	10,266,098	251,723

The research method is based on an analysis of frequencies and variations of these frequencies, in observed nominal data. The subjects are the Czech Republic population of citizens which also contains all the people with national suffrage and people who occupy elected offices. The analysed factor is the subjects' surnames. Surnames and their frequency ranks constitute the factor's categories. The core frame of the dataset contains the category (surname or surname rank), surname frequencies of sample (say politicians) and surname frequencies observed in the population. The frame is shown below as the table 9.

TABLE 9 Core frame to store frequency data

Category	Politicians	Population
s_1	n_1	N_1
$\vdots$	$\vdots$	$\vdots$
s_i	n_i	N_i

In the data structure, column *Category* contains surnames $\{s_i\}$, or it contains a rank which is a group of surnames. Then, $\{n_i\}$ stands for a number of politicians sharing $\{i\}$-th surname or rank (column *Politicians*), while $\{N_i\}$ stands for a frequency of the same surname $\{s_i\}$ or rank observed in the population (column *Population*), that is, an unweighted sum of all people who hold the surname $\{s_i\}$ or surname rank, in the reference population.

The data frame contains the data about the population and the examined sample. The politicians' surnames are gathered from official election results over a considerable period of time and across all the geographic area of the Czech Republic. In this way, the population surname frequencies are expected to fit despite geographic variations of surnames observed by Josef Novotný and James Cheshire (2012), and this makes population surname frequencies a suitable estimator of expected statistics. The population surname frequencies are taken as a proxy for surname frequencies of the electorate eligible for office.

The orthography (spelling system) of Czech surnames usually differs substantially between the female and male linguistic forms of a surname. For example, the regular forms of the most common Czech surname, in the nominative case, is *Novák* for men and *Nováková* for women. This prevents simple grouping of orthographically different but linguistically equivalent female and male surnames. The flexion depends on grammatical gender which usually corresponds with the surname bearer's sex. The difference between grammatical genders is however not regular, and therefore the gender of a surname bearer is not trivially distinguishable by automated processing. In addition, the gender of a Czech surname holder cannot be established either because the male and female linguistic forms of one surname can be identical in its nominative or dictionary inflection (in English, this is rather common), their grammatical gender is unclear, or it need not correspond with the bearer's sex, in rare cases. All datasets processed here contain frequencies associated with surname forms in the appropriate grammatical gender, that is it lists frequencies for surnames given in the nominative case and grammatical gender as used by the bearer. Therefore surnames can be matched between samples and population even though it is not always clear which of the bearers are women and which are men. This allows for an analysis of surname frequencies, but this

peculiarity fails to assist in controlling for additional phenomena which might otherwise be interesting to estimate. For example, the underrepresentation of women politicians in the political sphere cannot be controlled for simply by weighing surname frequencies by the grammatical gender of surnames. This grammatical gender cannot be obtained from elsewhere as there is no authoritative dictionary of Czech population surnames, which matches grammatical/bearers' gender with surname. Still, the impact of this in the data runs against the consanguinity hypothesis, and therefore it is considered marginal. This effect is explained in detail, later.

26.2.1. Czech Population

The Czech population surname frequencies have been obtained from the *Czech Ministry of Interior* (2013) which makes surname frequencies of registered Czech Republic citizens freely available on the internet. The data were obtained in mid-2013. The population surname frequencies require cleaning before use. The cleaning process is described in detail in the appendix *R Protocol: Processing Czech Population Data, Surnames*. The Ministry registered 270,172 unique surnames by 3 August 2013. After typographical errors are accounted for, there are 270,131 different single and compound surnames, in the database. The database contains surnames of 10,244,357 persons. In addition, there are 20,687 surnames which are constituted from two or more surname compounds. After aggregating these constituent surnames, there are now 251,723 unique surnames.[12] Therefore the population of 10,244,357 shares 10,266,098 instances of surnames. The table 10 lists the beginning and end of the clean database.

TABLE 10 Dataset head and tail, population surnames

Row	Surname	Freq.	Weighted Freq.
1	AADI	1	1
2	AAFJES	3	3
3	AALBREGT	1	1
4	AALDERS	1	1
⋮	⋮	⋮	⋮
251720	ŻYWCZOKOVÁ	3	3
251721	ŽYWIAK	5	5
251722	ŽYWIAKOVÁ	4	4
251723	ZYZEN	1	1
Total:		10,266,098	10,244,357

[12] Note that this number of unique surnames is much larger than the codified Czech vocabulary which is 192,000 unique words (Černá et al. 2002, 59).

In the table, the *frequency* column aggregates the count of surnames after compound surnames are broken down to their constitutive elements. The *frequency* column displays the count of people who bear a particular surname as a single surname or as a part of a compound surname. The sum of *frequency* column gives the total *unweighted* population count; it is the total number of surnames in the population. It is made larger than the population count by the multiple elements present in compound surnames. This *frequency* is always an integer. The sum of the *weighted* frequency column gives the population total. Each count of the *weighted* frequency shows the number of people holding a certain surname as a single surname (value of 1) or as a fraction of a compound surname. Any so weighted measure can be a fraction, but its total is always an integer which gives the total number of people in the population. The focus of this study is an examination of surname frequencies, and therefore the unweighted *frequency* is fit better for use, in the analysis.

26.2.2. Czech Politicians

The dataset contains politicians elected to offices between 1994 and 2012. The dataset contains the list of deputies of the Czech Republic parliament elected between 1996 and 2010 (*Czech Statistical Office* 1996b, 1998b, 2002a, 2006a, 2010c), senators of the Czech Republic parliament elected between 1996 and 2012 (*Czech Statistical Office* 1996a, 1998a, 1999, 2000b, 2002c, 2003a, 2003b, 2004a 2004c, 2006c, 2007a, 2007b, 2008a, 2010b, 2011, 2012a), members of Czech Republic regional assemblies elected between 2000 and 2012 (*Czech Statistical Office* 2000c, 2004d, 2008b, 2012b), members of the Prague Municipal Assembly elected between 1994 and 2010 (*Czech Statistical Office* 1994, 2000a, 2002b, 2006b, 2010a), and Czech Members of the European Parliament elected in 2004 and 2009 (*Czech Statistical Office* 2004b, 2009).

The elections data were retrieved from the elections website operated by the *Czech Statistical Office* at www.volby.cz between 2 and 3 October 2013. The original data were laid in two-dimensional data frames with variables of inconsistent formatting. The inconsistencies seem to have been caused by retaining legacy data frames for storing election results and were accounted for at the data processing stage. Processing and cleaning this dataset is described in appendix *R Protocol: Processing Czech Elections Data*. Several politicians bear compound surnames constituted of multiple surname elements. These surnames are broken down and counts of all surnames occurring among politicians are aggregated into *unweighted* frequencies. A count of any surname is equal to a count of politicians holding this surname in line with the way the population surnames are processed to make sure that the method compares indices which have been generated by an identical method.

The dataset contains unique politicians' surnames while true duplicate entries were discarded from the dataset. True duplicates are those entries which share an identical first name, surname and an identical or similar estimate of date of birth. Similar dates of birth are those which overlap within one year of each other. Since the original elections data contained the candidates' ages at the time of election, the candidates' years of birth were estimated by subtracting politician's age from the year of his or her election to office. These estimated dates of birth were then compared within groups of identical first names and surnames. Under this condition, if estimated dates of birth were identical or similar, the corresponding items were passed on as a single politician's surname and the corresponding offices were counted as multiple. This operation is described in section *7 Examining Multiple Offices* of the protocol. Due to a slim chance that unique politicians may hold identical first names, surnames and years of birth, this method may underestimate the number of unique politicians thus reducing the number of multiple identical surnames in analysis. This trend can be neglected as it runs against the consanguinity hypothesis.

In the dataset, there are 2,576 unique politicians who have held 4,362 political mandates in a 19-year period from 1994 to 2012, in the Czech Republic. The split of political offices is seen in figure 6. Of these, there are 1,062 politicians (41% of the total) who have held more than one elected office, either consecutively or concurrently. These 41% of politicians have held 65% of all available mandates (2,848 mandates). In the dataset, there are 2,576 unique politicians who share among them 2,587 surnames, and of these, there are 2,076 unique surnames. There are 803 politicians who share 292 surnames (that is, there are 292 surnames with a frequency greater than one). Therefore, there are 803 politicians who share identical surnames. That is, 31% of politicians share 14% of surnames.

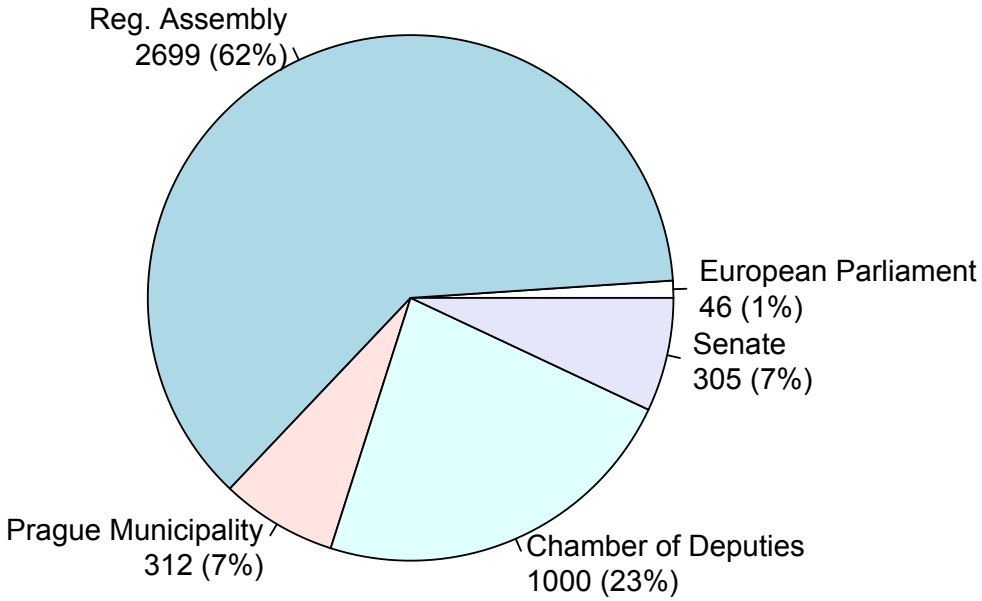

FIGURE 6 Czech Republic political mandates by office in 1994 to 2012

Here, there are additional characteristics of the dataset of elected politicians:

1. Two politicians' surnames ('Filištejn' and 'Silhán') do not match the *Czech Ministry of Interior* 2013 population data (*Czech Ministry of Interior* 2013), see section 11 of the processing protocol. Therefore all information about these two politicians is excluded from this analysis. For example, the dataset of elected politicians has been reduced to the above quoted number of unique politicians, each of which matches a registered population surname. And, the total number of mandates have been reduced accordingly to the number of mandates quoted above.

2. The dataset contains a mixture of female and male forms of surnames. The exact share of female politicians cannot be easily obtained from the surnames.

3. Most surnames in the dataset are of low frequency as six in seven surnames register a frequency of one. There are 2,076 unique surnames among politicians. The sum of surname frequencies is 2,587. The third quantile of the frequency distribution is 1, the mean is 1.25 of people per surname, the maximum frequency is 16 people for one surname, the standard deviation is 0.867.

4. There are 292 surnames with a frequency greater than one. The most frequent surname in the dataset is 'Novák' which is a male surname.

5. On average, when politicians share surnames there are 2.75 politicians for each of the 292 shared surnames.

The table 11 lists the head and tail of a clean dataset which contains the unweighted frequencies of politician's surnames used in this analysis. The column *Politician* gives the count of politicians holding a *Surname* while the column *Population* gives the count of this surname in the population.

TABLE 11 Frequency of politicians' surnames

	Surname	Polit.	Popul.
1	ABSOLON	1	430
2	ADAM	1	2,319
3	ADAMČÍK	1	587
⋮	⋮	⋮	⋮
2074	ŽUR	1	5
2075	ZVĚŘINA	1	868
2076	ZVĚŘINOVÁ	1	868

26.2.3. Complementary Datasets

There are four additional datasets analysed in this dissertation. One is the *Roster of the Czech Republic Judges* obtained from the *Czech Ministry of Justice* (2014). The roster was valid as on 21 March 2014, and it lists all judges in the Czech Republic. The second dataset is the *List of Notaries* published by the *Notarial Chamber of the Czech Republic* (2014) and accessed on 27 March 2014. The third list is the *Register of Attorneys and Junior Attorneys* provided by the *Czech Bar Association* (2014) as on 30 March 2014. This list contains names of all attorneys and junior attorneys registered with the Bar and licensed to practice law in the Czech Republic. The fourth list is the *List of Surnames of Employees* which the *Czech Ministry of Foreign Affairs* (2014) has provided and which gives the civil servants' surnames as on 6 May 2014. In the appendix *R Protocol: Complementary Datasets*, there is the script which documents the process to prime these datasets for analysis. The processing of these complementary datasets broadly follows the method developed for the politicians. For overall frequencies and counts see the table 8.

26.2.4. Dummy Population

The statistical method considered here requires a dummy dataset of nominals (surnames) with frequencies identical to surname frequencies observed in the Czech population. This dummy dataset expedites random drawing of multiple samples from nominal frequencies mirroring the population surname distribution as provided by the *Czech Ministry of Interior* (2013). The method to create the dummy dataset is described in appendix *R Protocol: Reference Dummy Vectors*.

The method entails replicating factors (surnames) exactly $\{N_i\}$-times for each of the surname frequency of $\{N_i\}$ (*unweighted* frequency) while each nominal factor (surname) corresponds to one of the 251,723 unique surnames observed in the population. This dummy population vector then contains 10,266,098 nominals corresponding exactly to the population *unweighted* surname frequency. Note that this frequency does not correspond to the population *weighted frequency*, the sum of which (10,244,357) is the Czech Republic population size. A corresponding dummy population frequency table is generated. The table 12 compares frequencies of population surnames to the frequencies of dummy nominals to show that they are identical.

TABLE 12 Population surname and dummy nominal frequencies

	Popul.	Dummy
Min. :	1.00	1.00
1st Qu.:	2.00	2.00
Median :	4.00	4.00
Mean :	40.78	40.78
3rd Qu.:	15.00	15.00
Max. :	35,310.00	35,310.00

In determining statistical significance, there are 10,000 or 5,000 random samples drawn from this dummy population vector. In the case of Czech politicians, each sample has the size of 2,587 which is the number of surnames occurring among observed politicians. The R procedure *sample* (R Core Team 2013) is used as it takes a random sample of a specific size from elements of the dummy population vector by using sampling without replacement. This random sampling matches exactly the null hypothesis considered here, that is *politicians' surnames are drawn from the population randomly*. This random sampling is performed according to the protocol presented in appendix *R Protocol: Import, Analyse and Model*, section *(2) Draw Random Samples without Replacement*. This sampling framework is identical for all datasets analysed, in this dissertation. After random sampling is performed, the cutoff values for significance testing can be estimated by using section *(5) Determine the 5% Bracket of Null Hypothesis* in the same appendix.

A corresponding method is used to create a dummy population dataset for *first* names from the list of first name frequencies of the Czech Republic population, provided by the *Czech Ministry of Interior* (2014), see appendix *R Protocol: Reference Dummy Vectors*. This dummy dataset is used to estimate statistical significance of observed *first* name frequencies.

26.2.5. First Names

Fabio Ferlazzo and Stefano Sdoia (2012) suggest to conduct an analysis of *first* names in order to check a hypothesis that even though surnames can be found homogeneous indicating nepotism (too few unique surnames in a sample, too many holders of identical surnames), first names are at the same time expected to be distributed randomly. Allesina (2012) demonstrated that this is true for Italian Academia while controlling for the effect of an uneven distribution of academic jobs between men and women. This dissertation will also attempt to follow and evaluate Ferlazzo and Sdoia's suggestion. Therefore, first names of politicians have been extracted in the process of obtaining their surnames (See appendix *R Protocol: Processing Czech Elections Data*). The Czech population *first* names have been made available by the *Czech Ministry of Interior* (2014) as of 20 October 2014. The processing is shown in appendix *R Protocol: Processing Czech Population Data, First Names*. And, first names of legal professionals (judges, notaries and attorneys) will also be analysed, in this dissertation. These first names have been extracted from public registers (*Czech Ministry of Justice* 2014, *Notarial Chamber of the Czech Republic* 2014, *Czech Bar Association* 2014) as is evident in the appendix *R Protocol: Complementary Datasets*.

26.3. Analysis

In this section, an analysis of identical surnames among elected Czech politicians is performed by examining observed and expected *rank 2+* frequencies, Fisher's α and Yule's *K* characteristic. Also, the same method is used to examine the extent to which Czech judges, notaries, Foreign Office civil servants and attorneys show indices of consanguinity larger than expected by chance. Then, a test for a random distribution of *first* names among politicians and lawyers (judges, notaries and attorneys) is performed, and conclusions pertaining to this dissertation are drawn.

26.3.1. Observed

First, various statistics are computed for surname frequencies of politicians, judges, notaries, Foreign Office civil servants and attorneys. These values are displayed by dataset in the table 13.

TABLE 13 Observed statistics for surnames by dataset

Statistic	Politicians	Judges	Notaries	Foreign Off.	Attorneys
n	2,587	3,094	444	1,987	14,958
s	2,076	2,472	413	1,715	9,198
rank 1	1,784	2,120	386	1,527	6,932
rank 2+	803	974	58	460	8,026
Fisher's α	4,884	5,706	2,887	5,964	10,166
$I = \frac{1}{\alpha} + \frac{1}{N}$ (in %)	0.059	0.05	0.26	0.067	0.017
Yule's K	3.281	3.011	3.551	2.107	2.126

The first column lists the total of 2,587 politicians (*unweighted* frequency {*n*}) who bear 2,076 unique surnames {*s*}. There are 1,784 politicians who bear unique surnames among politicians {*rank 1*}; and there are 803 politicians who share surnames {*rank 2+*}. Fisher's α of 4,884 indicates consanguinity at a very low level overall as expressed by the random isonymy {*I*} of 0.059% which indicates that there is a very low chance to randomly draw two politicians who share an identical surname. Yule's characteristic *K* complements this finding as its maximum is 10,000 (in complete homogeneity) while the value observed among politicians is close to 0. Similarly for judges, notaries, Foreign Office civil servants and attorneys. The notaries' surnames indicate the largest consanguinity with the probability {*I*} of 0.26%. The same is attested by Yule's *K* for notaries. The smallest overall consanguinity is indicated among attorneys and Foreign Office civil servants as evident by the relatively largest values of Fisher's α and smallest values of Yule's *K*. The observed statistics are obtained in section *(4) Compute observed values* of the appendix *R Protocol: Import, Analyse, and Model*.

26.3.2. Expected

Now, it is not immediately obvious which observed values indicate consanguinity larger than is possible by chance. In order to determine this, *expected* values and probability *mass* functions are estimated, in random sampling without replacement. Expected values are estimated by computing the arithmetic mean of the statistics which are characteristic of randomly drawn samples. The process of obtaining random samples is evident from section *(2) Draw Random Samples without Replacement* of appendix *R Protocol: Import, Analyse, and Model*. The process of computing expected values follows section *(3) Compute Expected Values* of this protocol. Such sampling produces sets of random samples, such as those displayed in the figure 7. For each dataset of surnames, these charts show histograms of random frequencies of *rank 2+* surnames. In principle, these are the probability mass functions appropriate for each sample size, drawn from the Czech population of surnames. Values shown in red are those which fall into the 5% probability bracket of the right tail. That is,

these cases show *rank 2+* larger than the mean (which is roughly in the mid section). And the chance of observing such a *rank 2+* surname distribution is smaller than one in twenty.

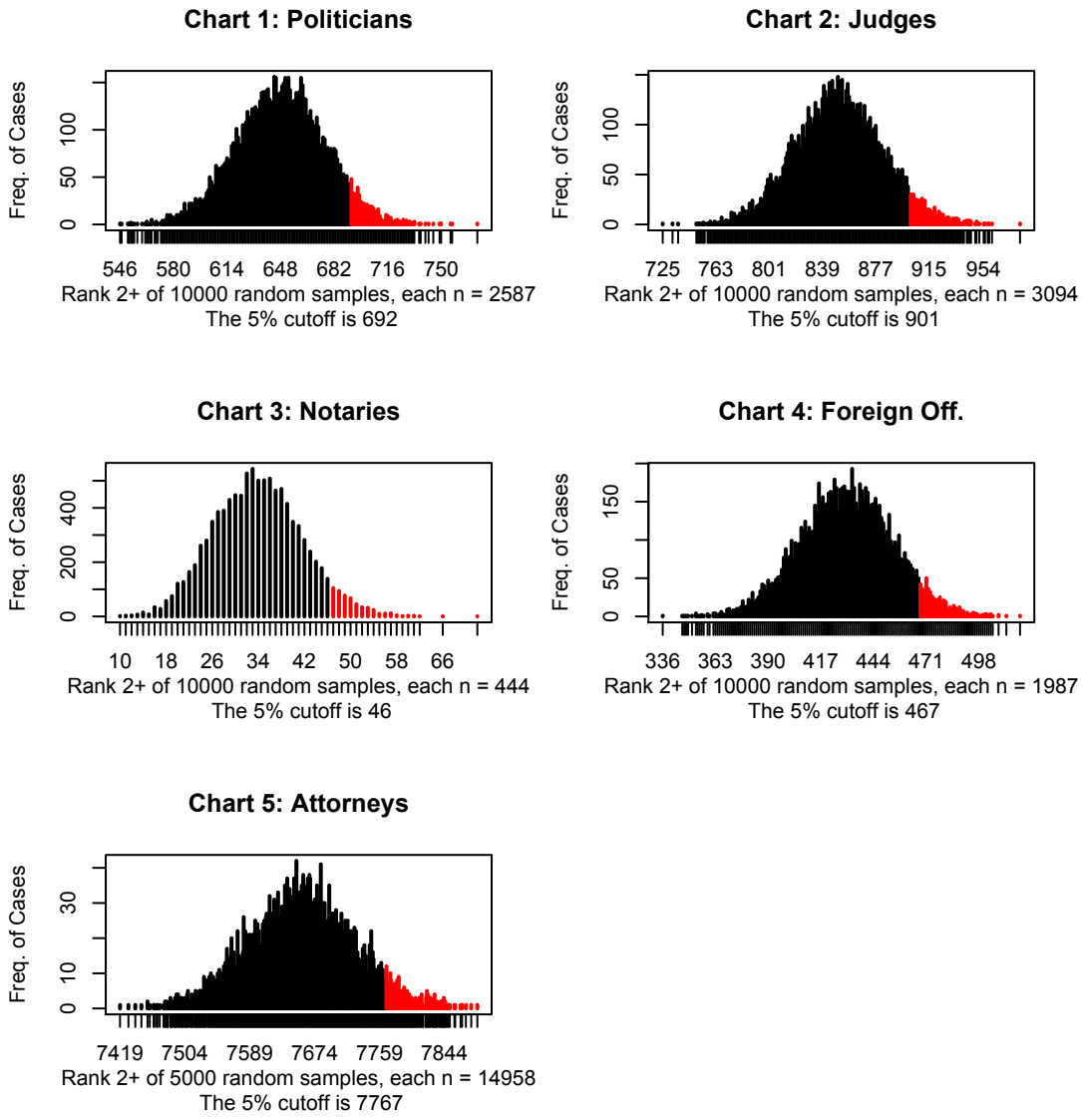

FIGURE 7 Random occurrence of *rank 2+* with 5% of cases marked in red

The result of random sampling is given in the table 14 which shows expected values for indicators *rank 1* surnames, *rank 2+* surnames, Fisher's α and Yule's *K*. The table also shows appropriate cutoff values calculated for the 0.05 level of significance. The cutoff values for *rank 2+* surnames and Yule's *K* are located to the right of the arithmetic mean (at the right tail) while the cut off value for Fisher's α are located to the left of the mean (at the left tail) due to the particular way by which each indicator is constructed.

TABLE 14 Expected statistics for surnames determined from random sampling by dataset

Statistic	Politicians	Judges	Notaries	Foreign Off.	Attorneys
draws	10,000	10,000	10,000	10,000	5,000
n	2,587	3,094	444	1,987	14,958
rank 1	1,939	2,243	410	1,557	7,301
rank 2+	648	851	34	430	7,657
... 5% cutoff (\)	692	901	46	467	7,767
Fisher's α	6,738	7,014	5,475	6,378	10,930
... 5% cutoff (/)	6,125	6,445	3,650	5,659	10,624
$I = \frac{1}{\alpha} + \frac{1}{N}$ (in %)	0.054	0.047	0.244	0.066	0.016
Yule's K	2.158	2.157	2.150	2.160	2.161
... 5% cutoff (\)	2.504	2.465	3.145	2.563	2.286

For example, the first column shows expected values for the group with the same size like the politicians. In 10,000 random draws of samples of 2,587 people, there were on average 648 *rank 2+* counts of surnames, that is 648 people on average share surnames among themselves if chosen randomly. Less than 5% of all random samples show the count of two or more people sharing identical surnames larger then the cutoff value of 692. That is, all observed counts larger than 692 occur with a probability of less than 5% (less than 500 cases of 10,000 random draws). Similarly for all other sets of random samples. The same logic applies when interpreting the cutoff value of Yule's *K*. Only, the cutoff value for Fisher's α is located to the *left* of the expected (mean) value because this indicator tends to 0 in samples of complete genetic homogeneity (originally, of the smallest biodiversity of species). It is worth noting that randomly drawn samples of the size {*n*}, which are identical in size to the above observed samples, will naturally display a large genetic heterogeneity as given by high values of expected Fisher's α, or a large lexical diversity as attested by low values Yule's *K*.

26.3.3. Evaluation

It remains to be seen whether observed values among politicians, judges, notaries and attorneys fall into the 5% probability bracket or not. The null hypotheses for each of these tests is that *an observed sample follows a random distribution of surname frequencies*. When an observed value falls into the appropriate 5% range of the probability mass function, then this null hypotheses is rejected. In the vernacular, when the observed statistic occurs with a probability of less than 5%, it is brought about by forces other than randomness.

The table 15 presents the case for *rank 2+* surnames. It is hypothesised that sharing surnames more often than is possible by chance indicates a consanguinity which among politicians is termed as 'political nepotism.'

TABLE 15 Expected and observed values for *rank 2+* surnames, at the 0.05 level of significance

Dataset	n	Exp.	5% Cutoff (\)	Obs.	Dist.	in % of n	Consan.
Politicians	2,587	648	692	803	111	4.29	present
Judges	3,094	851	901	974	73	2.36	present
Notaries	444	34	46	58	12	2.7	present
Foreign Off.	1,987	430	467	460	-7	*NA*	random
Attorneys	14,958	7,657	7,767	8,026	259	1.73	present

Among politicians, the expected number of politicians who share a surname is 648. If there are more than 692 politicians sharing their surnames with other politicians, the probability of this occurring by chance is smaller than 5%. In fact, there are 803 politicians who are observed to share their surname in the elections data. This value is located deep in the 5% right tail probability range. Therefore, the *rank 2+* surname indicates that the level of consanguinity among politicians is larger than expected; and this is hypothesized to be a result of political nepotism. Similarly, the observed number of judges who share surnames (974) is much larger than the expected number of judges to share surnames (851). The same is valid for notaries and attorneys at large. For civil servants, the expected number of surnames to be shared (430) is close to the number of surnames actually shared among themselves (460), in the Czech Foreign Office. Therefore, examining *rank 2+* surnames shows levels of consanguinity which are larger than possible by chance among politicians, judges, notaries and attorneys while Foreign Office civil servants' surnames do not indicate consanguinity.

The table 16 evaluates genetic homogeneity by using Fisher's α. It is hypothesised that smaller values of Fisher's α (low genetic diversity) than is possible by chance indicate a genetic homogeneity which among politicians is termed as 'political nepotism.'

TABLE 16 Expected and observed values, Fisher's α, for surnames at the 0.05 level of significance

Dataset	n	Exp.	5% Cutoff (/)	Obs.	Consan.
Politicians	2,587	6,738	6,125	4,884	present
Judges	3,094	7,014	6,445	5,706	present
Notaries	4,44	5,475	3,650	2,887	present
Foreign Off.	1,987	6,378	5,659	5,964	random
Attorneys	14,958	10,930	10,624	10,166	present

Among politicians, the expected value of Fisher's α is 6,738; this indicates that a very large genetic diversity is expected in a group of 2,587 politicians. When the observed value of Fisher's α is smaller than 6,125 then the probability of this occurring is less than 5%. In fact, the politician show Fisher's α of 4,884 which is much smaller than the expected value. Therefore Fisher's α indicates a genetic diversity among politicians smaller than is expected by chance; and this is hypothesized to be a result of political nepotism. Similarly, observed Fisher's α of Czech judges (5,706) is much smaller than the expected value (7,014). The same is valid for notaries and attorneys, at large. For civil servants, the expected Fisher's α (6,378) is close to the observed value (5,963), in the Czech Foreign Office. Therefore, examining Fisher's α of surnames shows levels of genetic homogeneity which are larger than possible by chance among politicians, judges, notaries and attorneys while Foreign Office civil servants show the level of genetic heterogeneity as expected by chance.

The measure of lexical richness of surnames Yule's *K* confirms the above findings broadly for all examined groups but for the attorneys. The table 17 evaluates 'dictionary richness' of each dataset of surnames by providing Yule's *K*. It is hypothesised that larger values of this Yule's characteristic than is possible by chance indicate a surname homogeneity (low diversity of surnames) which among politicians is termed as 'political nepotism.'

TABLE 17 Expected and observed values, Yule's K, for surnames at the 0.05 level of significance

Dataset	n	Exp.	5% Cutoff (\)	Obs.	Consan.
Politicians	2,587	2.158	2.504	3.281	present
Judges	3,094	2.157	2.465	3.011	present
Notaries	444	2.15	3.145	3.551	present
Foreign Off.	1,987	2.16	2.563	2.107	random
Attorneys	14,958	2.161	2.286	2.126	random

Among politicians, the expected value of Yule's *K* is 2.2; this indicates that a very large surname diversity is expected in a group of 2,587 people as 2.2 is close to its minimum of 0 and far from its maximum of 10,000. When the observed value of Yule's *K* is larger than 2.5 then the probability of this occurring is less than 5%. In fact, the politician show Yule's *K* of 3.3 which is larger than the expected value. Therefore Yule's *K* indicates a surname diversity among politicians smaller than is expected by chance; and this is hypothesized to be a result of political nepotism. Similarly, observed Yule's *K* of Czech judges (3.0) is much larger than the expected value (2.2). The same is valid for notaries. For civil servants, the expected Yule's *K* (2.2) is close to the observed value (2.1), in the Czech Foreign Office. Interestingly, among attorneys, the expected Yule's *K* (2.2) is also close to the observed value (2.1); this indicates that the surname richness which is characteristic of attorneys can

be a result of chance. Therefore, examining Yule's *K* shows levels of surname homogeneity which are larger than possible by chance among politicians, judges and notaries while Foreign Office civil servants and attorneys show surname heterogeneity as expected by chance.

26.3.4. First Names and Other Considerations

The performance of *rank 2+* indicator is now evaluated in a test devised by Fabio Ferlazzo and Stefano Sdoia (2012) who hypothesized that nepotism among Italian Academia is indicated while *surnames* are shared more often than is possible by chance while at the same time *first* names are randomly distributed. Allesina (2012) shows that this is true when the statistical method accounts for a difference between the distribution of first names among men and the distribution of first names among women, among Italian professors. Allesina also shows that this difference among the UK Academia can be controlled for (explained) by 'discipline-specific immigration,' that is by an influx of professors from abroad with non-English (linguistically foreign) names.

The table 18 provides summary statistics for shared (*rank 2+*) surnames and shared (*rank 2+*) first names of politicians. This is compared to shared surnames and first names of judges, notaries and attorneys taken together as a group of legal practitioners as 'Lawyers.' An aggregation of lawyers is possible because being a judge, notary or attorney is independent, that is mutually exclusive, by law.

TABLE 18 Expected and observed values for *rank 2+* at the 0.05 level of significance

Dataset	*n*	Exp.	5% Cutoff (\)	Obs.	Dist.	in % of *n*	Concl.
Politicians' surnames	2,587	648	692	803	111	4.29	non-random
Politicians' first names	2,579	2,422	2,439	2,464	25	0.97	non-random
Lawyers' surnames*	18,496	10,074	10,192	10,614	422	2.28	non-random
Lawyers' first names*	18,470	18,078	18,106	18,105	-1	*NA*	random

NOTE: * These datasets of legal practitioners aggregate all judges, notaries and attorneys.

Both politicians' surnames and lawyers' *surnames* are evidently shared more often than is possible by chance. For politicians this is expected due to political nepotism, for lawyers this is expected due to occupational following in the legal practice. In *first* names, lawyers just about border the expected randomness (their observed *rank 2+* is close to the right 0.05 tail) while politicians' first names do not seem to be distributed by chance. Broadly speaking, the lawyers pass the test by Ferlazzo and Sdoia without a reservation, while the politicians do not. As per Allesina's recommendation this requires a careful analysis of assumptions underlying first names distribution, one of which is the effect of gender for politicians who are expected to be men more often than is evident in the population. In the Czech Republic, women constitute a slightly larger share of the population than men (50.89% as of 31 December 2011, see *Czech Statistical Office* 2013), but only 22% of Parliament deputies

elected for example in 2010 were women. Yet, politicians' surnames and population data list male and female surnames as distinct unique nominals, that is separately, and therefore the chief gender bias in surnames is accounted for at the level of obtaining random draws and expected values (comparing likes when assuming that women's surname rank distribution is similar to men's).

Here, the findings suggest that an uneven gender distribution can skew rather the mass probability function of *first* name frequencies among politicians. For first names, this may be caused by different voluntary habits in naming daughters from habits pertaining to sons. Or, for example, the first born sons may be expected to receive their fathers' first names along with fathers' surnames for cultural reasons, more often than is possible by chance, in the Czech Republic. To a certain extent, then, first names of some men can be expected to be inherited like surnames and therefore to pass on a discrepancy observed in the random distribution evident from surnames. This can be prominent especially in culturally conservative groups which are likely to hold a general political appeal, such as among elected politicians. But, this hypothesis has not been explored further, in this dissertation.

Grammatically, it is not always possible to distinguish Czech female and male *surnames* to account for them, and there is evidence that women politicians are underrepresented among Czech politicians. Therefore, women sharing identical surnames can be expected to be underrepresented among politicians and thus to increase surname heterogeneity of the observed group of politicians. That is, women politicians' surnames will tend to fall into lower ranks among the *observed* politicians. This will decrease the *rank 2+* indicator of nepotism, and it will cause Fisher's α and Yule's *K* to over-report heterogeneity. As this trend in all three indicators is contrary to the consanguinity hypothesis, it can be ignored because when consanguinity is indicated in this dissertation, it is indicated *despite* this trend. Also, female surnames are accounted for as unique linguistic forms in the population data separate from their male counterparts. As women constitute a slightly larger share of the population of Czech Republic citizens than men, it can be assumed that *randomly* achieved frequencies will show rather higher counts in the *rank 2+* counts due to the contribution of the female forms of surnames. Again this will tend to make the *expected* value for *rank 2+* larger; and since this trend runs contrary to the consanguinity hypothesis, it can also be ignored. Further, in measures of homogeneity, the higher incidence of females with identical surnames (mother-daughter) in the *population* will tend to slightly increase expected homogeneity in *random* samples, which yet again runs contrary to the consanguinity hypothesis.

27. Conclusion to the Test

An exact correlation between politicians' surnames and their Y-chromosomes is beyond the scope of this research. Further, consanguinity as indicated by isonymy is a surrogate for indicating a straightforward preference of kin among any group of people. An assessment of identical surnames (isonymy) however indicates consanguinity among some Czech politicians. Then, a preference of kin among the politicians is assumed to cause this consanguinity. The consanguinity hypothesis is hereby confirmed. And this raises questions over the causes and effects of such consanguinity in the political system of the Czech Republic.

The performance of the indicators considered here is broadly taken as complementary, as seen in the table 19. The sum of shared surnames (*rank 2+*) when compared to the expected value indicates that identical surnames are shared among politicians more often than is possible by chance. Both Fisher's α and Yule's *K* indicate that politicians' surnames show a larger homogeneity than is expected by chance. Fisher's α as estimated from surnames is a measures to which identical genes are inherited from common progenitors.

TABLE 19 Indicators of consanguinity through surnames

Dataset	*n*	*rank 2+*	Fisher's α	Yule's K
Politicians	2,587	✓	✓	✓
Judges	3,094	✓	✓	✓
Notaries	444	✓	✓	✓
Foreign Off.	1,987	✗	✗	✗
Attorneys	14,958	✓	✓	✗

NOTE: A check mark indicates consanguinity passing the 0.05 threshold of significance.

Additional datasets of Czech judges, notaries and Foreign Office civil servants are provided on an as is basis valid in March 2014. These datasets do not include historical information of membership of lawyers in any of these groups over an extensive time period, unlike the dataset of politicians which spans 19 years. Still, such a one-off snapshot contains large shares of isonymy and thus indicates consanguinity, with the exception of the Foreign Office civil servants. For example for notaries, a prominent consanguinity is expected because the number of notarial licenses is limited and the benefits of becoming a notary are substantial, in the Czech Republic. This might incentivise some notaries to help in handing the notarial practice down the family line or to help their offspring in their occupational following by other means. As for the judges, the findings in the Czech Republic seems to complement indices observed in Slovakia (Šípoš and Spáč (2013): kin seems to be present among Czech judges.

Overall, surname frequencies of the Czech politicians indicate that the politicians are more interrelated than could be expected as a result of chance, and there is evidence that the Czech politicians are less diverse genetically than can be expected. This hypothesis is confirmed by:

1. Analysis of identical surnames (*rank 2+)*: Czech politicians' surnames are not drawn from the Czech population randomly. There is a higher frequency of identical surnames than would be expected as a result of chance.

2. Determining the measure of genetical heterogeneity (Fisher's α): Czech politicians are less heterogeneous than is possible by chance.

3. Review of 'surname richness' (Yule's *K*): Czech politicians' surnames are less diverse than is expected from a random sample of the same size.

4. Cut-off distance: Only after 111 Czech politicians' surnames are transferred from *rank 2+* to *rank 1*, that is only when 111 or more politicians is made to hold unique surnames instead of shared surnames, the politicians' surname frequency distribution would be assumed to be a result of chance. And, this is a conservative indicator.

The above used methods examining isonymy can help review circumstantial evidence of nepotism in various sufficiently large groups when population data is available. Indicators show that in addition to Czech politicians, Czech judges, notaries, civil servants and attorneys register various degrees of consanguinity. Also, that consanguinity among politicians is twice as common than among all judges, notaries and attorneys, combined. In addition, the indicators do not have enough power to confirm non-random consanguinity among the Foreign Office civil servants, though there is perhaps little doubt whether there is some consanguinity present among them as their indicators border the level of significance set in this dissertation.

There is evidence of consanguinity present among Czech politicians, and there is consanguinity observed among Czech judges which seems just as alarming. There is always the possibility of a deliberate nepotism, that is a preference of kin done with an intent to exploit others in an act of expedience. This requires a forensic investigation into the means, motive and opportunity. Now, the entailed nepotism, indicated here, is considered to be a less severe form: politicians' genetic make-up may result from forces other than a criminal or expedient preference of kin. If such a nepotism is concomitant to a liberal political system then it is worth questioning those constitutive principles which allow such a systemic feature to exist. The possibility of entailed nepotism allows for an array

of explanations. Perhaps such a nepotism is an expression of moral values running closer to human nature than John Rawls's political morals of a system which must never contain preference of kin in order to be just. Or there are unique circumstances which elicit traces of nepotism among the political representation. In either case, there is a need to reflect this collected evidence on John Rawls's *Theory of Justice* (1999): it is paramount to learn why nepotism can be observed in a liberal system.

As a sideline it is worth noting that empirical research in the area of political nepotism deserves attention. It is implausible to assume that once a liberal democratic constitutional system legislates against nepotism, loyalty to kin vanishes, because preference towards kin in other social circumstances has not. For example, family-run businesses seem to be thriving despite some economists arguing that due to the preferring of kinship links over individual performance, nepotistic companies should be less competitive (Goldberg 1982, Singell and Thornton 1997). Nepotism undoubtedly has a major impact on wealth distribution and equality of opportunity, but it also seems to be an expression of a value system which is deeply rooted in human conscience as it includes values such as child rearing and care for one's family. This research attempts to answer the question of whether one can observe nepotism-like indices in complex political systems. In this context, nepotism cannot be disregarded simply because it appears to be a legacy illiberal value. Examining the moral system behind nepotism and its interactions within liberal values, may provide substance to the theoretical understanding of how current political regimes work.

This research maps out an elusive phenomenon. Yet ultimately, the research compels a further exploration, and it addresses these questions: Can practical methods of reconciling conflicting moral convictions be applied in politics? Can John Rawls's *original position* produce principles which are morally relevant to all? And ultimately – Why would Albert Camus prefer his mother to justice?

CHAPTER V. A THEORY OF JUSTICE AS EQUITY

In this dissertation, John Rawls's theory of justice as fairness is understood to explicate justice served without favouritism. Rawls stipulated that ignorance of one's circumstances is requisite for fairness, in institutional arrangements. Then, avoiding favouritism has been shown to provide fairness, in many circumstances. But, ignorance of all particulars has led to discrimination against one particular kind of favouritism, that is against a tendency towards virtue. The tendency is an expression of constructive sentiments in some group affiliations when these sentiments can also contribute to fairness. The theory of justice as fairness based on ignorance of legitimate in-group sentiments and loyalties fails to uphold or explain fairness, in these cases. And when it fails to explain some fairness, it fails to serve as a reasonable guide for solving conflicts of moral convictions by Rawls's preferred method of determining primacy and rank. As an explanation of political relevance of these convictions is now not found to reside in Rawls's theory, the theory requires a reformulation. Therefore, an attempt to alter Rawls's theory of justice as fairness is in order. It will take the form of justice as equity, that is the theory of justice as the quality of being fair and impartial, and of balance.

28. Experimental Results

In order to determine the necessity of this alteration, the chapter *Analysis and Synthesis* (section 21) laid out a test of John Rawls's theory of justice, in an experiment. The experiment assessed effects of two devices to create impartiality in the original deliberation over principles of justice, among rational actors, that is in the thought experiment of the original position. The first device is Rawls's veil of ignorance. The veil is argued in this dissertation to cause a discrepancy, in the theory. The test is set up so that the veil of ignorance requires an exemplar mother-politician to exercise her political power selflessly and to abide by Rawls's difference principle, in the case of her daughter who wishes to follow her mother in the political occupation. Under the veil of ignorance, the rational actor is not aware that she has one particular daughter, or that indeed the rational actor is a power-wielding politician at all, and therefore this rational actor is not likely to decree that preferring politicians' daughters in pursuing a political career is fair, in principle. Perhaps, the rational actor will even suggest caution in promoting offspring in politics as the actor is aware of general social circumstances favourable to elites and of a general tendency to occupational following among most trades of life, including offices of power. Therefore, as there are others who by the virtue of their birth have no access to offices of power, the rational actor refuses to pursue elite following in the public administration by the elite offspring. Now, in the process of reaching a reflective equilibrium, the mother-politician faces conflicting motivations: either to be a good mother and prefer her offspring, or to be a good politician and neglect her kin in helping her daughter to build a political career. The original position, as described by Rawls, provides reasons

for the mother-politician to rely on the difference principle in order to be fair. In principle, the mother politician is invited to accept that when she fails to do so and promotes or allows tendencies to occupational following by her daughter, she seizes to be fair. From this it follows that the imposed ignorance of particular circumstances, in the thought experiment, explains a rejection of occupational following among politicians, in the real life. The effect of the veil of ignorance is a rejection of a preference of kin in occupying offices of power; it is a rejection of political nepotism. This argument establishes a testable claim that, provided a political system is fair (that it is reasonably close to a well-ordered society based on the principles of justice), there is no occupational following, in offices of political power.

In the section 20 of this dissertation, I suggested that a contrasted device to achieve impartiality was an arbitration of equals. In principle, the arbitration of equals represents an agreement on awards among rational actors, that is an agreement which is fair in an original position. The arbitration entails a recognition in all parties that an agreement seeks redress which is agreeable and even possible only by agreement. Such an agreement is impartial in that the concerned parties agree to it, freely, and this is why the concerned parties find it fair. The arbitration of equals limits effects of Rawls's difference principle: arbitration requires an agreement over a concrete trade-off of awards when applying the difference principle. When the mother-politician ponders whether to support her daughter in following her in the political occupation, she is not necessarily faced with Rawls's dilemma either to act as a good mother, promote her kin and fail as a fair politician or to act as a fair politician and reject her kin. If the mother-politician and other parties in the conflict over occupational following find a compelling reason for agreement and balance trade-offs of contrasting claims to occupational following, she may as well go ahead and help her daughter to establish herself as a politician, under some concrete circumstances. In this, she can achieve to be the good mother and good politician, at the same time. Therefore, the arbitration of equals does not necessarily deny the existence of some forms of preference of kin, in the offices of political power, conditional to fair trade-offs. In reality, an empirical observation of kin among politicians may not necessarily disqualify such an altered theory of justice as impractical or irrelevant, or the system as illiberal or unfair. Under the theory of justice as equity, it is the concrete moral motives of the mother-politician and the specific and balanced distribution of trade-offs which constitute grounds to perceiving the system and the particular situation as fair or unfair. Therefore, a claim contrary to Rawls's, that there can exist a preference of kin in a fair political system, is empirically testable.

Now, observations documented in the chapter *Testing the Theory* indicate consanguinity among occupants of offices of power, that is among Czech politicians, judges and notaries. It also follows

that there is a tendency to preferring kin among some civil servants, in the Czech Republic. Apparently, public offices are not immune from occupational following, in the Czech Republic. Therefore provided the institutional system of the Czech Republic can be considered as broadly fair, this finding contradicts the expectation that politicians reject occupational following as they would due to Rawls's veil of ignorance. The evident occupational following in offices of power is however not in conflict with expectations drawn from the theory of justice as equity, under the arbitration of equals. In other words, the empirical findings fail to confirm the expectation of no consanguinity proposed under the veil of ignorance. The key assumption here is that the Czech political system is broadly fair. The choice which the theoretician faces is for example between claiming that either Rawls's theory is partially wrong (in some aspects of creating the condition of impartiality) or the Czech political system provides no substantial fairness what so ever. Parsimony requires to alter the theory in the area where it misfits observations rather than to deny the large share of reality which is in agreement to it: the Czech political system does indeed display many artefacts which are indicative of fairness, like the rule of law, political freedoms, division of power, or general elections. This is the most parsimonious position defendable, for the moment. Therefore, the experimental results are in accord with altering John Rawls's theory of justice as fairness.

29. Experimental Layout

The table 20 presents a simplified scheme behind this dissertation. The scheme proposes to explain whether it is fair to prefer kin in the form of for example occupational following among politicians. It compares the reasoning leading to a reflective equilibrium over principles under John Rawls's justice as fairness (column A) with such a reasoning under the arbitration of equals (column B.1 and B.2). The staging is such that there are three hypothesis to be observed, there is a matching observation made and there is a conclusion. By this third stage, the hypotheses proposed under the reasoning of A and B.1 are seen not to explain the observation of consanguinity among politicians. The hypothesis B.2 (conditional political nepotism) does not conflict with observations of consanguinity among politicians. If the political system is broadly speaking liberal, that is it produces primary social goods at the rate expected from a political system based on fairness, then the theory which leads to the B.2 hypothesis is thought to better describe it. Obviously, the reasoning provided under the arbitration of equals which leads to nepotism (B.2) serves as an example. It clearly needs not to be this specific set of equitable awards why occupational following may actually occur while it is fair; yet same or similar arguments have been suggested (Crowley and Reece 2013; Dal Bó, Dal Bó and Snyder 2009; Feinstein 2010; Van Liefferinge and Steyvers 2009).

TABLE 20 Experimental layout of this dissertation

<table>
<tr><td colspan="3">(i) The systemic conflict: Is it fair when politicians prefer their kin in occupational following?</td></tr>
<tr><td rowspan="2">A. Original position, deliberation

Under the veil of ignorance, I can imagine to occupy the station in which one is born into a non-dynastic family and incur damage in one's chances to become a politician on one's own due to a preference given to kin among political dynasties. Lessening opportunities of others to occupy positions of power is unfair because it lessens opportunities, wealth and income of those who are non-dynastic. Then, occupational following in politics is unfair. Political nepotism is unfair.</td><td colspan="2">B. Original arbitration, deliberation

Party 1 (woman, politician): A preference of kin in political appointments is fair to one's own children, everyone would do this.

Party 2 (man, non-politician): I am born into a non-dynastic family and incur damage in my chances to become a politician on my own due to a preference given to kin among political dynasties. Positions of power in a liberal democracy are public assets and not private fiefdoms of their occupants.</td></tr>
<tr><td>(1) Following Rawls's original position deliberation (A), political nepotism is found unfair by both parties. Both parties agree with party 1's recognising other uncontroversial opportunities which an offspring affiliation with parents-politicians brings; and they agree with party 2's pursuit of increasing his chances to become a politicians when political dynasties are banned, systemically.</td><td>(2) Party 1 (woman, politician) convinces party 2 (man, non-politician) that her daughter is the best qualified person for the job who is unlikely to engage in corrupt behaviour because she wants to avoid hampering chances of her offspring to enter politics, and that the free elections is a device to deny occupational following to her daughter when she turns out to be corrupt. In exchange, the party 2 is offered an improved incentive (presumed) in dynastic politicians to avoid corruption as they have a higher stake in remaining in politics than non-dynastic politicians and therefore are argued to be less prone to corruption. Party 2 accepts this award in political accountability. Awards are accepted, mutually, therefore they are considered fair. The form of political nepotism which is curtailed rather by free elections and decreased corruption is not banned, systemically.</td></tr>
<tr><td colspan="3">(ii) Hypothetically, political nepotism is:</td></tr>
<tr><td>Denied</td><td>Denied</td><td>Allowed</td></tr>
<tr><td colspan="3">(iii) When a consanguinity is observed among politicians, does the empirical observation comply?</td></tr>
<tr><td>No</td><td>No</td><td>Yes</td></tr>
</table>

John Rawls (1999, §17) notes that arbitrary natural contingencies such as noble birth explain unjust arrangements when they become the basis of elite recruitment. The hypothesis B.2. is not in conflict with this claim as any occupational following (dynastic character of politics) becomes unjust only when the non-politician fails to appreciate its effects in terms of primary social goods. This is unlike Rawls's hypothesised aristocratic society in which the commoner has no way to become an aristocrat once he or she seizes to be convinced of an increased benefit in primary social goods which the elitism of *noblesse oblige* purports to create, for him or her.

30. Illiberal but Fair

Any preference shown to kin in the public domain seems in a stark contract to fairness. The cost of this understanding is in that John Rawls's veil of ignorance reduces the complexity of human

interactions by denying the knowledge of virtue when adjudicating according to moral principles, and so it shrinks the range of available rational solutions to conflicts of moral doctrines. This denial is seen in the treatment of those illiberal moral doctrines which are harmless or even constructive to fairness. For example and as shown earlier, some argue that under Rawls's theory a religious duty of toleration can be justified only as congruent to or as a consequence of principles of justice as fairness (Sandel 1998, p. xiii), even though this religious ascription predates the principles, the principles may even originate in observance of piety, or the religious duty can be found as parallel to justice as fairness. Similarly, Rawls himself found the family as one original source (albeit limited) of self-respect; the family can generate this primary social good even in such societies which are not organised according to principles of justice (Rawls 1999, p. 205). Or, see Gerald Cohen's observation (2008, 154) that should people feel repulsed by morally arbitrary conditions of social cooperation they would be found to act on these impulses more often than they seem to, in fact. Such illiberal *hard cases* have one thing in common. The pursuit of illiberal (religious, familial, or otherwise morally justified) acts can be found welcoming in the public domain, in the case when they promote the social goods identified in John Rawls's theory. The mechanism which seeds Rawls's theory of justice with a theoretical incompatibility with these illiberal moral doctrines is the bias against virtue imposed by an indiscriminate veil of ignorance. Then, this bias against virtue, this problem for fairness, is solved for *equity* by establishing an arbitration of equals, and thus by altering Rawls's original position. This arbitration provides impartiality while it does not depend on an ignorance of particulars. The function of this arbitration of equals is to show that a fair agreement requires an equitable agreement on trade-offs. This agreement is not expedient because this arbitration is a theoretical construct performed among free rational actors who have reasons for entering it. If parties to a conflict are not found to be equal by their own yardsticks then there is no arbitration of equals to speak of, and there is perhaps no fair resolution to their conflicting demands.

31. Nepotism and Expediency

The political nepotism is rooted in a cluster of moral values which promote family; one of these family values is a selfless care for offspring. In this sense, nepotism is an expression of altruism shown to those who one considers his own kin. As indicated by John Rawls, some family values are beneficial, and functional liberal political systems require them, while some other family values lead to discrimination of others. Some of these values increase economy (those building trust), some decrease transparency (those leading to conflicts of interest). Now, it is shown that the preference of kin in public offices can be fair or unfair, depending on circumstances. The leading cause of adjudicating nepotism as unfair seems to be when the preference of kin is laced with expediency. In

this extreme case (albeit common), both John Rawls's theory of justice as fairness and the theory of justice as equity converge as they will refuse to consider political nepotism as a fair endeavour. The veil of ignorance will always insure that bias (preference of kin) does not enter negotiations over fair principles. And, an arbitration of equals will always rule out any payoff to exploitation of one party by the other as any equitable trade-off must be agreed upon by both parties, to be considered fair. An exploitation of one party by another denies the primacy of liberty, in a liberal democracy. In this regard, the possible expedience in political nepotism is understood not as an attempt to exploit an abstract public interest for individual ends, but rather as an attempt of some to exploit others directly by denying them a fair chance to pursue their goals. Then, there is the theoretical case when a non-expedient form of the preference of kin is freely agreed to among concerned parties for a substantial award in terms of social goods. The veil of ignorance will insist on denying this political strategy, too, as it denies any form of bias due to the veil's symmetrical effect on the difference principle. But, an arbitration of equals over the preference of kin may be concluded, successfully, when the fairness of an arrangement is found in the concrete agreed-upon trade-off of awards, that is in the equity of its substance.

32. Liberal Treatment of Illiberal Moral Doctrines

The chief reason for preserving liberty is to create the most varied body of incompatible moral values and aims which can be fitted together, in society. Due to this, the values which are truly illiberal seem to be those which seek to destroy society. And therefore illiberal moral doctrines, that is values which lessen liberty, present a contradiction. Then, a more nuanced view is in order. There may be illiberal values and aims in the sense in which they are incompatible with the principles that create the structure which however allows their successful pursuit. This leads to an argument in favour of seeking an overlapping consensus which provides the minimal threshold of an outcome over which individuals acting on incompatible aims can agree. This is insufficient for John Rawls because an overlapping consensus is far from an agreement on justice as fairness reached at the point of reflective equilibrium. In the theory, Rawls expects that there is an informed and free consent to his two principles of justice possible among all rational members of society. The theory expects an honest, thought-through process of reaching an equilibrium between everyone's goals and the principles of justice, in a concrete implementation thereof, that is in every day life. Now, illiberal moral values which are incompatible with Rawls's principles of justice can either be sidelined or marginalised. These illiberal values can hardly be understood to ever enter the mainstream of the political deliberation, in a society ordered by the principles of justice as fairness.

Once, they are found to flourish in the public domain, that domain is deemed illiberal or the theory is found insufficient.

Apart of marginalization, there are other strategies to contain illiberal values within a liberal system. Notably, a well-established method is found through understanding of liberty as the freedom to pursue one's goals within a space protected from interference by others. Just about any reasonable yet incompatible value including those labeled here as illiberal but fair can be argued to flourish within such a space, free from interference. While such a system proposes to establish an equilibrium between multiple individuals' competing demands without a reference to substantial individual moral convictions, the trick is in that the process of reaching this equilibrium seems impossible without succumbing to the temptation of imposing a measure of individual preferences, across all concerned individuals. In order to balance out conflicting claims, this system needs a *common currency* to settle competing demands for freedom from interference and thus to reach an equilibrium between individuals and to delineate boundaries to individual freedom. Then, the political method of such a settlement of disputes – one which is indispensable in evaluating, comparing and delineating conflicting effects of personal goals, values and actions – constitutes the determinant of such liberty. For example, in his *Two Concepts of Liberty*, Isaiah Berlin (2002, 169) seems to offer the deliberate interference of others as a bimodal threshold by which he determines one's 'negative liberty' in addition to the capacity to develop and use 'natural faculties' (p. 171) which determine the liberal minimum. For Berlin, the common denominator of rational aims, which do not coincide, is the equality of liberty (p. 172) resulting in a pluralism of values. For John Rawls, the determinant is fairness which is a value he argues that all members of a liberal society subscribe to. This is why an overlapping consensus is not sufficient as the currency of settlement when the consensus is based on purely incompatible moral values. For this dissertation, the determinant is the act of equitable agreement which is a conviction which is expected in all rational individuals.

If a person is responsible for his public acts, there is no avoidance to accepting that he can be so only when he decides to act in one way or another, freely. When he causes effects and he wills to do so, he is responsible for those effects; he is held accountable to those who are affected by these acts. This interaction between one person, who acts politically and affects another, requires an arrangement, one agreeable to both. John Rawls seeks this agreement through fairness, such as when all people can agree on the fairness of their cooperation, because fairness is a creed spread so widely. This dissertation centers on a claim that when there are two parties in dispute, the accountability for one party's acts transfers from this party to both of the parties, in an arbitration of equals. While fairness is brought about by impartiality, it is however doubtful that a partiality to

virtue damages fairness. In terms of transfers of moral accountability, any virtue acknowledged by competing parties in their counterparts enhances the likelihood of a balanced agreement; this virtue, much like an insurance bonus, spreads out that accountability and lessens the risk of a failure of cooperation. While Rawls's kind of fairness which neglects particulars might be sufficient in motivating cooperation, uniformly, partiality to virtue may enhance fairness further, individually. In this, this dissertation attempts to demonstrate that an equitable partiality may be present in a liberal political system, yet it may be distinct from John Rawls's canonical fairness.

33. In Search of Impartiality

Impartiality is perhaps an equal treatment of disputing parties, neutral to all, unbiased; yet it is not immediately clear whether impartiality is a product of the uninterested, uninvolved and uncommitted, of the detached, dispassionate and above all, of the objective. If the worth found in human circumstances depends solely on the mind which adjudicates it, then there can be no neutral ground found through a lack of interest, involvement, commitment, attachment or passion. The political philosophy of John Rawls seeks the fair ground when it attempts to gather an insight into solving conflicts of demands on social goods, that is on the product of social cooperation. Consequently and in order to reconcile impartiality with partial circumstances, this dissertation attempts to demonstrate that fairness is not equal to a lack of knowledge, in practical terms.

This dissertation attempts to show that John Rawls's theory of justice rules out a positive potential in some expressions of the preference of kin. The theory disregards all favouritism due to one core condition which is the method of creating impartiality in the original deliberation. The theory constructs impartiality by imposing ignorance (veil of ignorance) on rational actors in its principal thought experiment (original position). The ignorance of one's particular circumstances and affections, e.g. allegiances of kin, allows the rational actors to create constitutive principles which can however be morally irrelevant, in particular circumstances, that is in circumstances which concern virtues pertaining to kin. An example of such a morally irrelevant principle is the flat rejection of all preference of kin, due to Rawls's broad difference principle. From this it follows that rules based on ignorance of particular circumstances, such as for example anonymity rules mitigating discrimination by banning knowledge of group association (Fershtman, Gneezy and Verboven 2005, p. 372), can fail. And this failure has been observed, empirically, when in-group favouritism provides the substance of fairness and motivates strategies to prefer kin. Anonymity rules, that is an obligation on *un-knowing* the kinship cues which lead to distrust and discrimination, are irrelevant to those who act on their altruism towards their own group, that is towards those with

whom they are genetically similar, for example. Then, discrimination and unfairness brought about by nepotism needs to be dealt with by other means. The reflective equilibrium behind the arbitration of equals, is one such method, at the institutional level.

As John Rawls (1999, 166) notes, impartiality can be mistaken for impersonality. Rawls's notorious solution for obtaining impartiality is a denial of knowledge of individual goods; and in this way he produces one kind of impartiality. In this, Rawls avoids a model based on individual goods or on an impartial adjudicator of individual values (p. 24). Rawls rather offers to understand fair solutions to conflicts as those which are discovered in processes stemming from his two principles of justice. This dissertation assumes that rational actors take themselves as the judges of their own good; and this claim is also consistent with liberty. An arbitration among them seeks an equitable partiality of awards to arrange impartiality relative to the parties in conflict. Surely, in the model arbitration of equals, no attempt is made to solve every and each conflict of interests. Rather, such an arbitration is offered to be a structure which provides impartiality and fairness, but unlike Rawls's method, it does so with a full awareness of individual goods. This feature of an arbitration of equals seems to be in a sharp contrast with Rawls's claim that without a complete restriction on information in the original position, there is no way to construct a 'definitive theory of justice' (Rawls 1999, 121). Expressly, Rawls (1999, 108) asserts that familial ties cannot be accepted as a condition of the original deliberation or the deliberation becomes too complex. Rawls claims that it is the ignorance which allows creating principles which are acceptable by all, unanimously. Now, if the arbitration of equals is offered as a model to solve conflicts impartially and fairly, as a model which is feasible to those who have a stake in these conflicts, then solutions found in it do not need to concern all. Specific solutions require unanimous agreements of everyone involved, while it is only the principle of arbitration of equals which needs to be acceptable by all, unanimously and for all times. Therefore, the specific information present in an arbitration does not seem to obstruct an authoritative theory of justice. In the original arbitration, there is no complexity of assuring everyone's agreement over everything (dubbed as the 'bargaining problem' in Rawls 1999, p. 121, or a 'continuous plebiscite' in Berlin 2002, p. 198) present, as is required in Rawls's theory.

34. Rational Relevance of Principles of Justice

Impartiality, which is necessary for fairness, can be created without ignorance, in the original position. It is created without any reference to an independent judge nor any specific values accepted by all. A condition of retaining particular knowledge allows rational actors to reach agreements which pertain to particular circumstances and therefore such agreements are relevant to

those circumstances. In the context of the theory, rational actors do not solve every particular conflict, since they deliberate principles of their cooperation. From the point of autonomy, it is fruitless to have model rational actors solve problems for all individuals. But, when conditions of an enhanced original position remain appealing to individuals, the resulting constitutive principles continue to explain processes occurring outside of the thought experiment.

The theory of justice as equity needs to explain processes leading to impartiality and fairness, at the same time. John Rawls's fairness requires impartiality for establishing fairness, the justice as equity discovers fairness in equitable affiliations. The theory needs to capture the dynamic between impartiality, fairness and favouritism, when neither of these elements necessarily excludes the other two from an assessment. Imagine an interest in the welfare of a local community which is both impartial to other members of this community and discriminating against members of a neighbouring community. At the same time, it can be perfectly fair to hold a conviction partial to one's in-group and incurring a cost to the neighbouring community if this grievance is redressed, in an equitable arrangement. Justice as fairness cannot provide a convincing explanation of this model case as it is capable of capturing only those convictions which are either omnipresently fair or ultimately biased. The theory of justice as equity is then a kind of fairness with impartiality properly implemented so that it takes into account fair in-group biases which are conditional to out-group awards.

The principle which distinguishes the justice as equity from Rawls's justice as fairness is in the particular method to create impartiality. Rawls's impartiality is produced by ignorance of afflictions; equity's impartiality is brought about by consent. Theoretically, this consent is structured as an arbitration of equals. Rawls's ignorance represents everyone uniformly as everyone is made uniform by rendering all personal interests void. The party to an arbitration is a more lenient case of representation as it does not require anonymity. Instead, the arbitration resides in outspoken loyalties to one's concrete interests, duty to respect concrete interests of others, and in a conviction that it is possible to reach a fair settlement of disputes of competing demands by an exchange of awards. The arbitration of equals can therefore be practical, and it provides a reasonable mode for reflective and actual deliberations within and between individuals.

In his introduction to *What We Owe to Each Other*, Thomas Scanlon (1998, 4) claims that a judgement of one's wrong conduct (that is an adjudication of demerit) is confirmed when the principle underlying it is refuted by others. Alternatively, Scanlon argues that the principle which cannot be refuted leads to a right action (adjudication of merit). His is the idea of 'justifiability to others'

through reasons (pp. 5 and 147-188) while the rightness of an action is determined by compelling (substantial) principles which are acceptable by all (p. 5). This dissertation does not require such a universal consideration; but in principle, this dissertation argues that an equitable arrangement is one when the truth of substantial trade-offs of awards is accepted by all. In this, this method remains liberal because it does not attempt to trade off individual *reasons* in favour of an advantageous arrangement. These reasons for cooperation or goods in cooperation or individual desires for cooperation remain within private domains of the parties in conflict. Still, I want to emphasise that this dissertation seems a natural extension of Scanlon's argument because one's acceptance of another's reasons may constitute a feasible award, yet this dissertation is less demanding as Scanlon's type of awards can be excessive. With Scanlon, this dissertation shares a conviction that actual agreements between people over substantial claims cary a force of motivation (p. 155); the difference between Scanlon's view and the argument presented here is in that this dissertation does not require individuals to make judgements of right or wrong of others.

There is another aspect of Thomas Scanlon's question of *What We Owe to Each Other* which touches John Rawls's treatment of rational actors as equals, in the original position. Conditions of Rawls's original deliberation fail to create a model which fits well to situations in which there is a compound benefit of cooperation found in group loyalty, as seen in the anthropological evidence presented in the chapter of this dissertation on *Nepotism* (see section 5 *Tendency to Altruism*). What is required of a theory of justice is the ability to treat rational actors as capable of sharing a common interest within groups because such a compound (common) interest may provide benefits larger than the sum of isolated individual interests. It may induce cooperation, and therefore it may help explain it. This feature is clearly present in an arbitration of equals while it is rejected by the individually construed equal agents under the veil of ignorance in Rawls's original position. This dissertation demonstrates this fundamental difference in two theoretical treatments of the loyalty to one's group which is induced by one's kin.

35. Formulation

Pertaining to goals outlined in the chapter *Analysis and Synthesis*, in this part of the dissertation I will attempt to formulate a *Theory of Justice as Equity*. It contains a list of ideas which were taken directly from John Rawls's *Theory of Justice* (Rawls 1999) or developed further. First, I review propositions which to a large extent respect concepts proposed by John Rawls. Then, I lay out an original arbitration of equals which replaces John Rawls's original position as the device of deliberation over principles of cooperation resulting in a fair production of primary social goods. I compare the main

claims of John Rawls's theory of justice as fairness and this dissertation's view of justice as equity. I also consider equity briefly as a liberal doctrine and as a type of social contact, both of which are properties retained from justice as fairness. I also attempt to formulate the principles of justice as equity.

35.1. Propositions of Original Arbitration

If it is rational to desire one's goals then people require resources in order to achieve these goals. Resources are created in social cooperation. These resources are social goods. Some of these social goods create a larger capacity for people to pursue their goals. These social goods are primary because they show this capacity for everyone. The primary goods are moderately scarce, there is not enough of them for everyone. This causes conflicts of demand and disputes of claim. If people seek an amicable settlement to those disputes over primary resources, then they may decide to assess competing claims, determine their merit and adjudicate on awards accordingly. If everyone is empowered to desire his or her goals, that is when everyone respects everyone else in doing so, then all of them seek satisfactory principles to adjudicate competing claims to primary resources. These principles constitute a mode of cooperation which provides reasonable shares of the primary social goods to everyone and which everyone accepts as justified. The primary goods are empowerment (John Rawls's 'sense of one's worth'), choice ('rights and liberties'), chance ('opportunities'), and capacity ('income and wealth') to pursue one's goals.

There are rules which help institute processes in which some conflicts over primary goods are settled. These rules limit the scope of possible expressions of these conflicts. As rules can change, this institutional environment can also change. Therefore it is rational to seek principles of cooperation, and a corresponding institutional arrangement. It is rational to seek principles which are justified to settle conflicts over primary resources. People judge for themselves what is good for them therefore they enter their disputes as their own judges. When all people command empowerment they seek rules which require and provide regard to all individuals' goods. They acknowledge that all of them pursue a protection of their choices, under such rules. First, if competing parties engage themselves to settle their conflict, then equally they consent to seeking awards in a trade-off. Second, when rational parties in dispute consent to an award, this award is impartial and fair, that is equitable. Hence justice as equity. Third, they agree that any difference in chance and capacity to pursue their goals must be justified, in a trade-off improving primary social goods. All parties require from all parties to freely accept the benefits of differences in opportunities, wealth and income, in terms of exercising primary social goods, or their settlement is not equitable.

An original arbitration of equals is the principal thought experiment used in the process of attaining a reflective equilibrium as the chief explanatory device to an observed congruence of an individual's goal with principles of justice as equity. It describes one type of John Rawls's original position which is an impartial space for rational deliberation over principles to improve the chance and capacity of everyone to live their lives to the fullest. The arbitration experiment states that before conventionally rational actors (as defined by John Rawls (1999, 123-4)) start any deliberation over principles of their cooperation as equals, they all agree that they are empowered to choose their own goals. The actors are judges of their own good, and therefore they enter an arbitration over primary social goods to increase their chance and opportunity of pursuing the goals as equal conflicting parties. In the arbitration, the competing parties recognise that *there is fairness in an equitable exchange of awards to redresses*, and this constitutes the first principle of justice as equity. If disputants agree on awards, these awards are fair. Second, the disputing parties acknowledge that their interest is best furthered through cooperation in a just system, equally. They acknowledge that they share the same interest which is a fair maximisation of their liberties. Third, disputing parties consent that *differences in chance and capacity to pursue their goals can be exchanged for substantial awards in terms of empowerment and choices*. This is the qualified difference principle which is the second principle of justice.

The original arbitration of equals has another important feature which is an improved impartiality. This impartiality is constructed so that competing parties retain particular knowledge pertaining to individuals, their understanding of what is good. This impartiality is constructed so it is the parties in dispute which decide, equally, what is good for them in terms of awards. If both agree over awards, they reach the point when their agreement is fair. By definition, the competing parties can consent freely to an exchange of awards only after they know the effect of such awards on their own pursuit of individual goods, and in this it is imperative to remain aware of the particular knowledge of one's individual good, in the original arbitration of equals. Technically, this is possible because a party in dispute is always loyal to itself; it observes a duty to earn trust from the other party; and a comprehensive process to reach an equitable result of arbitration is predetermined by the parties in dispute. Expediency is understood to be such an award which comes at a cost of lessening one's empowerment and choice. Since parties in dispute are stipulated to pursue their goals (i.e. they are empowered), they cannot agree to expedient awards in terms of primary social goods because expedient awards are contradictory to this pursuit.

35.2. Arbitration as Representation

These are the key differences between John Rawls's justice as fairness and the approach proposed in this dissertation (see table 21 below). First, Rawls stipulated that the rational aim (end state) to solving disputes over primary social goods is fairness; this dissertation operates under a less stringent requirement in that the aim is non-violence in the form of an amicable settlement of disputes over primary social goods. Second, Rawls's chief rational proposition to be mitigated by principles of justice is an arbitrariness of endowments; this dissertation however requires an assumption that this arbitrariness of endowments is evidenced only when there are substantiated disputes over primary social goods. Third, Rawls's central device to facilitate a reflective equilibrium is an original position populated by rational actors; this dissertation suggests an original arbitration of equals to be such a device. Fourth, Rawls's method of ensuring impartiality in order to produce fair principles of justice is the veil of ignorance, that is a rejection of all information which causes bias. This dissertation requires competing parties to agree to awards given out in an arbitration of equals for the awards to be considered fair. Fifth, Rawls's original position is created so an individual can imagine himself in the least advantaged station and therefore, in order to protect himself, he embraces the principles which protect the least advantaged. This dissertation creates an original arbitration of equally empowered parties so that competing parties seek a justification of their differences from one another in an agreement over trade-offs; an individual seeks and creates a shared rational or moral ground with those individuals whose claims are contrary to his interests.

TABLE 21 Two theories of justice

	type of. . .	as Fairness	as Equity
(1)	aim:	fairness	amicable settlement
(2)	premise:	arbitrariness of endowments	arbitrariness in disputes
(3)	device:	original position	original arbitration
(4)	impartiality:	veil of ignorance	agreement over awards
(5)	justification:	by the least advantaged	in a trade-off of awards

NOTE: The theory of justice as fairness corresponds to the theory by John Rawls (1999).

In principle, Rawls examines the rationality of seeking a fair solution to conflicts while this dissertation proposes to understand such solutions as equitable agreements. Irrespective of these differences, this dissertation and Rawls's approaches share in common this chief expectation: that both core thought experiments can be convincing for individuals and have an effect on their decision making. Both the rational actor in Rawls's original position and the competing party in the original arbitration represent a mode of reasoning. To this limited extent, the rational actor and the competing party model a single societal interaction in which individuals find their justifications of

mutual cooperation to pursue individual ends. In short, John Rawls's discovery of *If I were the poor man* point of view turns into *If I knew the poor man*, in this dissertation.

35.3. Principles of Justice as Equity

There follows a reformulation of the principles of justice, two of which were first expounded by John Rawls (1999, 266) as the first and second principles of justice. This reformulation reflects reasons given in this dissertation. It takes the form of an equity principle which assures impartiality and retains knowledge of particulars in the original deliberation, primacy of liberty (this is Rawls's first principle of justice, unchanged) and informed difference which is a conditional form of Rawls's difference principle. These principles underline arbitrations over principles of cooperation between parties pursuing conflicting claims for primary social goods.

> *EQUITY IN ARBITRATION*
> *An exchange of awards offered and accepted freely in order to redress grievances is equitable.*
>
> *PRIMACY OF LIBERTY*
> *Each person is to have an equal right to the most extensive total system of equal basic liberties compatible with a similar system of liberty of all (Rawls 1999, 266).*
>
> *INFORMED DIFFERENCE*
> *Fair social and economic inequalities are arranged so that all competing parties acknowledge these inequalities as improving their empowerment, choices and chances to pursue individual goals, substantially.*

The priority of principles require no extended deliberation which would be additional to that given by John Rawls (1999, 266-7) because the problem identified in Rawls's theory is not one in the order of principles. Rawls relegates fairness to the *thin* theory of good, it precedes his original deliberation, and in this sense for him it is also one of any first principles of justice. Here, fairness and impartiality is taken as the first principle of justice because it establishes a particular structure of deliberation, that is the original arbitration of equals which requires knowledge of individual claims and goals. Similarly to Rawls's argument, impartiality and fairness is agreed upon before the primacy of liberty and the difference principles are justified. Then, the primacy of liberty (the form of empowerment which is subject to this dissertation) over the rest of primary social goods is acknowledged. This acknowledgement under the original arbitration of equals comes about similarly to the reasoning found in Rawls's original position. Rawls does not impose the veil of ignorance over liberty because his rational actors enter the original position as equals; this arbitration of equals does not engage any veil, either. Only later in his argument, Rawls draws the veil over particulars to avoid bias in deliberations. Naturally therefore the difference principle comes out as lesser in priority, for him. And here, the difference principle is one which diverges from

Rawls's because, under an arbitration of equals, it explains a range of justified settlements which partly departs from the range allowed by Rawls's difference principle constructed behind the veil of ignorance. This is an informed difference principle, and it is conditional to a mutual consent of competing parties (the equity principle imposes this); and in this view, it is lesser to the other two principles of justice as equity, naturally.

35.4. Appeal of Liberty

John Rawls ranked his theory of justice as fairness among theories of a social contract because it offers a 'higher level of abstraction' of traditional social contract theories (Rawls 1999, 3). The chief idea is Rawls's particular understanding of any individual's examination of the original position and of reaching a 'reflective equilibrium' between the individual's good and principles of justice. This equilibrium is the abstracted social contract while the strength of its conviction rests in the theoretical argument. In this dissertation, the upgraded theory proposes to retain these mechanics in that the theory offers an insight into the individual mode of deliberation over ideas constitutive of a well-ordered society, to follow their logic and to reflect on them, in his life. In addition, this improved approach is a re-definition of the 'overlapping consensus' first observed by John Rawls (1999, 340). The reciprocity which Rawls required from the consensus is strongly wired in the crux of this enhanced theory which is an equitable trade-off of awards between different parties (in the thought experiment) or social stations (in real life). Such a qualified consensus requires only sharing of a recognition that there are justified aims of others', but there is no need to share individual reasons justifying those aims, that is similarly to the 'overlapping consensus.' And in this, the upgraded theory remains in the liberal domain of political philosophy. Both theories then offer to understand an individual who subscribes to the liberal domain by the means of his sense of justice (John Rawls) or a strive for amicability (this dissertation) which both are taken as natural duties which emanate from human psychology. In this, both theories reminisce less of a social contract and more of a social draft because the individuals' agreement to observed principles of justice is enacted in a 'reflective equilibrium,' in the form of a personal conviction.

The social contract outlined in this theory is perhaps better understood as a reasonable necessity brought about by conflict over moderately scarce resources. From the theoretical point of view, it is less useful to emphasise either the conflict or necessity when it is the mode which purports to explain observations of conflict management or goodwill facilitation, and in short, of social cooperation. Equity also addresses criticisms brought about earlier. For example, Jürgen Habermas (1995) indicates that rational actors in Rawls's original position are not moral persons due to a lack of

information on affiliations available to them. The mode of original arbitration provides for those personal attachments in conflicting parties. H. L. A. Hart (Daniels 1975, 230-52) claims it is unreasonable to expect the ideal of 'public-spirited citizen' (p. 252) in all members of a liberal society, and consequently Hart casts doubt on whether Rawls's justice as fairness is congruent with goodness. As shown earlier, equity seems better equipped to explain workings of societies which do not take liberty (the public spiritedness) as a primary social good than Rawls's theory. Michal Sandel's (1998) objection against Rawls's theory is based on a lack of personal loyalties under the veil of ignorance which leads to a confusion between the priority of rights and good in areas such as hate speech and religious duty. Equity however provides for shared virtues, be they a respect or religious observance contributing to fairness, despite their partiality, in order to enhance Rawls's original position, further. Amartya Sen (2002) argued that Rawls indadvertedly introduces a class of shared in-group biases in his original position which underly the two principles of justice. Equity is immune from this as any interest, be it of the present or theoretical future generations, can possibly be presented in and dealt with by the means of original arbitration, if the need be. Equity tops the shared moral minimum of Rawls's *thin* theory of good to allow for principles of justice to become rationally acceptable.

Therefore, I wish to conclude this examination into whether there is an issue in John Rawls's theory of justice as fairness causing a logical discrepancy between its explanatory force and empirical observation, whether the discrepancy can be empirically observed, and whether there is a plausible adjustment of the theory which corrects this inconsistency. I take it that the demonstration of nepotism present in this dissertation is worked into the theory.

36. New Research Questions

The notion of equity can be understood to supplant fairness in the rational argument behind a common acceptability of fairness. Individuals are argued to accept fairness as a natural duty through reason because, in a well-ordered society, they can expect cooperation from others when they offer to cooperate. This is why reciprocity is fair, and it is argued to be rationally appealing (Rawls 1999, 96 and 275). Equity supersedes this rational argument because on top of fairness, individuals can expect impartiality from others if they provide impartiality to the others, in return. This agreement is the basis for fairness which is conditional to an exchange of awards, and it is relevant to the parties in dispute within their specific circumstances.

Now, the case is whether there is equity found in the consanguinity observed among politicians, in this dissertation. Theoretically, there is no equity found when the examined behaviour (preference

of kin) violates the requisite loyalty to one's goals, respect to the interest of others and a trade-off of awards. Neither, there is equity found in irrational behaviour nor expediency. Expediency is present when individuals harm others and skew negotiations over principles away from impartiality. Since isonymy does not measure expedience, the next steps in this analysis can be for example an assessment of whether, in instances of consanguinity, there is evidence of harm done to parties in whose interest it is to oppose political nepotism. At the level of the theory, this can be done by observing actual motivations of politicians to engage in the behaviour which results in an increased consanguinity among them (dubbed here as for example occupational following). If they are found to follow other reasons then those expected in this theory, one needs to conclude together with John Rawls (1999, 398) that the theory of justice is 'seriously defective.' Until the time when such new 'principles of moral psychology' are uncovered, this theory may be found practical.

In this dissertation, my hope was to present an outline of a theory which explains reconciliation of conflicting moral doctrines and accommodation of illiberal moral doctrines within an equitable system. I also hope that John Rawls would find the conception of justice as equity attractive. In the current affairs, nepotism in political appointments is not an isolated reality of nations beyond the Caucasus. It is not buried in Vatican archives nor did it die with the last Qing Emperor. As a fact of life, nepotism seems to give a new meaning to major ideas which define democracy. It is desirable to ask, for example, what the division of power means when loyal kin is present across the branches of power, or what its consequences for equal opportunity in political competition are, or for the legitimacy of the state. Ideally, one might like to see modern society follow grand principles of universal human rights and equal opportunity. Existing principles of government however attain unexpected properties when set in the reality of preference of kin. Though riddled by nepotism, the modern state is still capable of producing the social goods for which it is praised. The USA has yet to see a dynasty gain a firm hold of the federal helm. Instead of moralising about nepotism, it is worth exploring its effects in modern political environments in order to examine liberal democracy and appreciate its principles. Kin allegiance can produce desirable social goods, such as cohesion. Does then nepotism contribute to social cohesion? And, would such a contribution make a case justifying certain instances of political nepotism? Social cooperation may well run along various interests including the lines of family or ethnicity. But is ethnicity inherently harmful and can ethnic conflicts be resolved when tackling the mechanics of in-group favouritism? The theory had better put the issue at heart into perspective, as Albert Camus did when he preferred his mother. Why? Because he was a good son.

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Appendix

```
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space}
\renewcommand{\tablename}{Table}
\setcounter{table}{0}
\caption{Equal basic liberties}
\begin{tabular}{ll}
  \hline
& Liberty  \\
  \hline
(1) & Political liberty \\
(2) & Freedom of speech and assembly \\
(3) & Liberty of conscience \\
(4) & Freedom of thought \\
(5) & Freedom of the person \\
(6) & Right to hold personal property \\
(7) & Freedom from arbitrary arrest and seizure \\
   \hline
\multicolumn{2}{l}{\footnotesize \textsc{Source:} \text{Rawls (1999, 53).}} \\
\end{tabular}
\end{table}
```

TABLE 2 The principle of fairness (institutions) with applied priority rules

<table>
<tr><td rowspan="6">Fairness
*</td><td colspan="5">For All</td></tr>
<tr><td rowspan="5">Liberty
†</td><td colspan="4">Equal Basic Liberties</td></tr>
<tr><td rowspan="4">Opportunity
‡</td><td colspan="4">Most Favourable to...</td></tr>
<tr><td rowspan="2">The Least Advantaged</td><td>Just Savings</td><td>Positions Open to All</td><td>Equality of Opportunity</td></tr>
<tr><td colspan="3">…only when restricted opportunity benefits the least advantaged §</td></tr>
<tr><td colspan="4">…only when efficiency and maximising a sum of advantages maximise opportunity ‖</td></tr>
<tr><td colspan="4">…only when acceptable, less extensive liberty strengthens liberty of all ¶</td></tr>
</table>

* The principle of justice as fairness. § The second priority rule: restricted difference principle (welfare).
† The first principle of justice. ‖ The second priority rule: restricted efficiency principle.
‡ The second principle of justice. ¶ The first priority rule: priority of liberty.

SOURCE: Rawls (1999).

```
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space}
\renewcommand{\tablename}{Table}
\setcounter{table}{2}
```

```
\caption{Primary social goods}
\begin{tabular}{ll}
  \hline
& Good  \\
  \hline
(1) & Rights and Liberties \\
(2) & Opportunities \\
(3) & Income and Wealth \\
(4) & Sense of One's Worth \\
   \hline
\multicolumn{2}{l}{\footnotesize \textsc{Source:} \text{Rawls (1999, 79).}} \\
\end{tabular}
\end{table}

% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space}
\renewcommand{\tablename}{Table}
\setcounter{table}{3}
\caption{Conditions for the original position}
\begin{tabular}{ll}
  \hline
& Type  \\
  \hline
(1) & Actors: \\
  & - continuing persons \\
  & - entry at any time \\
  & - can rank alternatives \\
(2) & Rationality: \\
  & - taking effective means to ends \\
  & - motivated by mutual disinterest \\
(3) & Agreement: \\
  & - unanimous in perpetuity \\
  & - strict compliance to \\
  & - self-interest of all poses a limit \\
(4) & Justice: \\
  & - basic structure of society \\
  & - moderate scarcity \\
  & - compliant with formal ethical conditions \\
  & - veil of ignorance \\
   \hline
\multicolumn{2}{l}{\footnotesize \textsc{Source:} \text{Rawls (1999, 126-7).}} \
\
\end{tabular}
\end{table}

% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space}
\renewcommand{\tablename}{Table}
\setcounter{table}{4}
\caption{Rawls's \textit{thin} theory of good}
\begin{tabular}{ll}
  \hline
& Feature  \\
  \hline
(1) & Actors: \\
```

```
  & - Accept the thin theory in the original position. \\
  & - Accept that primary goods are necessary for rational life plans. \\
  & - Act according to a basic principle of motivation. \\
  & - Require more than less of primary goods. \\
(2) & Primary Goods: \\
  & - The definition of a good is morally neutral. \\
  & - Primary goods are identical for all people. \\
  & - They are self-respect, liberty, opportunity, income and wealth. \\
  & - Self-respect (moral worth of a person) is above the rest. \\
  & - The sense of justice is a primary good, for most. \\
  & - A preference for primary goods is rational. \\
(3) & Rationality: \\
  & - Parsimonious criteria of rational choice explain the preference for
primary goods. \\
  & - Employs deliberative rationality to assess happiness. \\
  & - A unanimous agreement on standards of rationality is not required. \\
(4) & Other aspects: \\
  & - The thin theory defines beneficent and supererogatory acts. \\
  & - It constrains drafting of primary goods. \\
  & - It allows establishment of original position. \\
   \hline
\multicolumn{2}{l}{\footnotesize \textsc{Source:} \text{Rawls (1999, pp. 347-81,
392-4, 496-503).}} \\
\end{tabular}
\end{table}

% put in preamble: \usepackage{pifont} % http://ctan.org/pkg/pifont diacritic
characters
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,2cm}}
\renewcommand{\tablename}{Table}
\setcounter{table}{5}
\caption{Enhancing the original position by avoiding a bias against virtue}
\begin{tabular}{l|cccc}
  \hline
Test & Veil & Beholder's & Arbitration \\
& of Ignorance & Perspective & of Equals \\
   \hline
Impartiality & \ding{51} & \ding{51} & \ding{51} \\
Autonomy & \ding{51} & \ding{55} & \ding{51} \\
Good-neutral & \ding{51} & \ding{55} & \ding{55} \\
Good-relative & \ding{55} & \ding{51} & \ding{51} \\
  \hline
Altruism & \ding{55} & \ding{51} & \ding{51} \\
Moral Person & \ding{55} & \ding{55} & \ding{51} \\
Overlapping & restrictive & ? & \ding{51} \\
Arbitrariness & disputed & \ding{51} & \ding{51} \\
Entitlements & \ding{55} & \ding{51} & \ding{51} \\
Shared Morals & \ding{55} & \ding{51} & \ding{51} \\
Congruence & conditional & \ding{51} & \ding{51} \\
Social Justice & \ding{55}  & \ding{51} & \ding{51} \\
% in \usepackage{pifont} where tick is \ding{51} and cross is \ding{55}
   \hline
\end{tabular}
\end{table}

% put this to preamble \usepackage{caption}
```

```
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space}
\renewcommand{\tablename}{Table}
\setcounter{table}{6}
\caption{Enhanced principles of justice}
\begin{tabular}{rl}
   \hline
& Principle \\
   \hline
(1) & An informed consent is fair. \\
(2) & All have an equal right to liberties. \\
(3) & The disadvantaged knows his benefit of a difference. \\
   \hline
\end{tabular}
\end{table}

% latex table generated in R 3.1.2 by xtable 1.7-4 package, size 12
% Fri Jan 30 11:41:23 2015, generated by using xtable(table[,c(1,3:4)])
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space}
\renewcommand{\tablename}{Table}
\setcounter{table}{7}
\caption{Processed surname and first name datasets}
\begin{tabular}{rlrr}
  \hline
 & Dataset & $n$ or $N$ & $s$ or $S$ \\
  \hline
1 & Attorneys' first names & 14,968 & 766 \\
  2 & Attorneys' surnames & 14,958 & 9,198 \\
  3 & First names, dummy pop. & 10,306,910 & 21,827 \\
  4 & Foreign Office surnames & 1,987 & 1,715 \\
  5 & Judges' first names & 3,061 & 301 \\
  6 & Judges' surnames & 3,094 & 2,472 \\
  7 & Notaries' first names & 441 & 126 \\
  8 & Notaries' surnames & 444 & 413 \\
  9 & Politicians' first names & 2,579 & 274 \\
  10 & Politicians' surnames & 2,587 & 2,076 \\
  11 & Surnames, dummy pop. & 10,266,098 & 251,723 \\
   \hline
\end{tabular}
\end{table}

% latex table generated on Wed Apr 23 12:06:00 2014, size 12
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,6cm}}
\renewcommand{\tablename}{Table}
\setcounter{table}{8}
\caption{Core frame to store frequency data }
\begin{tabular}{rrr}
  \hline
 Category & Politicians & Population \\
  \hline
$s_1$ & $n_1$ & $N_1$ \\
  $\vdots$ & $\vdots$ & $\vdots$ \\
$s_i$ & $n_i$ & $N_i$ \\
```

```
   \hline
\end{tabular}
\end{table}

% latex table generated in R 3.0.2 by xtable 1.7-1 package, size 12
% Sun Dec  8 10:40:13 2013
% based on rbind(head(unique), cbind(surname = "...", freq = "...", freq.w =
"..."), tail(unique),cbind(surname = "suma", freq = sum(unique[,2]), freq.w =
sum(unique[,3])))
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space}
\renewcommand{\tablename}{Table}
\setcounter{table}{9}
\caption{Dataset head and tail, population surnames}
\begin{tabular}{rlrr}
  \hline
 Row & Surname & Freq. & Weighted Freq. \\
  \hline
1 & AADI & 1 & 1 \\
  2 & AAFJES & 3 & 3 \\
  3 & AALBREGT & 1 & 1 \\
  4 & AALDERS & 1 & 1 \\
  $\vdots$ & $\vdots$ & $\vdots$ & $\vdots$ \\
  251720 & ŻYWCZOKOVÁ & 3 & 3 \\
  251721 & ŽYWIAK & 5 & 5 \\
  251722 & ŽYWIAKOVÁ & 4 & 4 \\
  251723 & ZYZEN & 1 & 1 \\
   \hline
Total: & & 10,266,098 & 10,244,357 \\
   \hline
\end{tabular}
\end{table}

% latex table generated in R 3.0.3 by xtable 1.7-1 package, size 12
% Wed Apr  9 09:08:19 2014
% put this to preamble \usepackage{caption}
% based on rbind(head(polit.fos[,1:3]), cbind(s = "...", freq.o = "...", freq =
"..."), tail(polit.fos[,1:3]))
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,6cm}}
\renewcommand{\tablename}{Table}
\setcounter{table}{10}
\caption{Frequency of politicians' surnames}
\begin{tabular}{rlrr}
  \hline
 & Surname & Polit. & Popul. \\
  \hline
1 & ABSOLON &   1 & 430 \\
  2 & ADAM &   1 & 2,319 \\
  3 & ADAMČÍK &   1 & 587 \\
$\vdots$ & $\vdots$ & $\vdots$ & $\vdots$ \\
2074 & ŽUR &   1 & 5 \\
2075 & ZVĚŘINA &   1 & 868 \\
2076 & ZVĚŘINOVÁ &   1 & 868 \\
   \hline
\end{tabular}
\end{table}
```

```
% latex table generated in R 3.0.3 by xtable 1.7-1 package, size 12
% Wed Apr  9 09:54:43 2014
% put this to preamble \usepackage{caption}
% based on cbind(summary(popul[,2]), summary(popul.d.f[,2]))
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,6cm}}
\renewcommand{\tablename}{Table}
\setcounter{table}{11}
\caption{Population surname and dummy nominal frequencies}
\begin{tabular}{rrr}
  \hline
 &       Popul. &       Dummy \\
  \hline
Min.   : & 1.00   & 1.00   \\
1st Qu.: & 2.00   & 2.00   \\
Median : & 4.00   & 4.00   \\
Mean   : & 40.78   & 40.78   \\
3rd Qu.: & 15.00   & 15.00   \\
Max.   : & 35,310.00   & 35,310.00   \\
   \hline
\end{tabular}
\end{table}

% latex table generated in R 3.1.2 by xtable 1.7-4 package, size 12
% Fri Jan 30 12:26:31 2015, generated by using
xtable(report.o[c(-6,-8),c(1,2,4,5,6,3)])
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space}
\renewcommand{\tablename}{Table}
\setcounter{table}{12}
\caption{Observed statistics for surnames by dataset}
\begin{tabular}{lrrrrr}
  \hline
Statistic & Politicians & Judges & Notaries & Foreign Off. & Attorneys \\
  \hline
 $n$ & 2,587 & 3,094 & 444 & 1,987 & 14,958 \\
 $s$ & 2,076 & 2,472 & 413 & 1,715 & 9,198 \\
 \textit{rank 1} & 1,784 & 2,120 & 386 & 1,527 & 6,932 \\
 \textit{rank 2+} & 803 & 974 & 58 & 460 & 8,026 \\
 Fisher's $\alpha$ & 4,884 & 5,706 & 2,887 & 5,964 & 10,166 \\
 $I = \frac{1}{\alpha} + \frac{1}{N}$ (in \%) & 0.059 & 0.05 & 0.26 & 0.067 &
0.017 \\
 Yule's $K$ & 3.281 & 3.011 & 3.551 & 2.107 & 2.126 \\
   \hline
\end{tabular}
\end{table}

% latex table generated in R 3.1.2 by xtable 1.7-4 package, size 12
% Fri Jan 30 13:38:18 2015, generated by using
xtable(report.exp[c(8,6,7,1,2,11,3,13,4,5,15),c(1,2,4,5,6,3)])
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang}
\renewcommand{\tablename}{Table}
```

```
\setcounter{table}{13}
\caption{Expected statistics for surnames determined from random sampling by
dataset}
\begin{tabular}{lrrrrr}
  \hline
 Statistic & Politicians & Judges & Notaries & Foreign Off. & Attorneys \\
  \hline
 draws & 10,000 & 10,000 & 10,000 & 10,000 & 5,000 \\
 $n$ & 2,587 & 3,094 & 444 & 1,987 & 14,958 \\
 \textit{rank 1} & 1,939 & 2,243 & 410 & 1,557 & 7,301 \\
 \textit{rank 2+} & 648 & 851 & 34 & 430 & 7,657 \\
 $\ldots$ 5\% cutoff (\textbackslash) & 692 & 901 & 46 & 467 & 7,767 \\
 Fisher's $\alpha$ & 6,738 & 7,014 & 5,475 & 6,378 & 10,930 \\
 $\ldots$ 5\% cutoff (/) & 6,125 & 6,445 & 3,650 & 5,659 & 10,624 \\
 $I = \frac{1}{\alpha}+\frac{1}{N}$ (in \%) & 0.054 & 0.047 & 0.244 & 0.066 &
0.016 \\
 Yule's $K$ & 2.158 & 2.157 & 2.150 & 2.160 & 2.161 \\
 $\ldots$ 5\% cutoff (\textbackslash) & 2.504 & 2.465 & 3.145 & 2.563 & 2.286 \\
   \hline
\end{tabular}
\end{table}

% latex table generated in R 3.1.2 by xtable 1.7-4 package
% Fri Jan 30 15:29:23 2015, generated by using xtable(report.r2[c(1,3,4,5,2),])
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang}
\renewcommand{\tablename}{Table}
\setcounter{table}{14}
\caption{Expected and observed values for \textit{rank 2+} surnames, at the 0.05
level of significance}
\begin{tabular}{lrrrrrrr}
  \hline
 Dataset & \textit{n} & Exp. & 5\% Cutoff (\textbackslash) & Obs. & Dist. & in \
% of \textit{n} & Consan. \\
  \hline
 Politicians & 2,587 & 648 & 692 & 803 & 111 & 4.29 & present \\
 Judges & 3,094 & 851 & 901 & 974 & 73 & 2.36 & present \\
 Notaries & 444 & 34 & 46 & 58 & 12 & 2.7\hphantom{0} & present \\
 Foreign Off. & 1,987 & 430 & 467 & 460 & -7 & \textit{NA} & random \\
 Attorneys & 14,958 & 7,657 & 7,767 & 8,026 & 259 & 1.73 & present \\
   \hline
\end{tabular}
\end{table}

% latex table generated in R 3.1.2 by xtable 1.7-4 package, size 12
% Sun Feb  1 15:56:21 2015, based on
xtable(report.fa[c(1,3,4,5,2),c(1,2,4,5,3,6)])
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,1cm}}
\renewcommand{\tablename}{Table}
\setcounter{table}{15}
\caption{Expected and observed values, Fisher's $\alpha$, for surnames at the
0.05 level of significance}
\begin{tabular}{lrrrrr}
  \hline
 Dataset & \textit{n} & Exp. & 5\% Cutoff (/) & Obs. & Consan. \\
```

```
  \hline
 Politicians & 2,587 & 6,738 & 6,125 & 4,884 &  present\\
 Judges & 3,094 & 7,014 & 6,445 & 5,706 &  present\\
 Notaries & 4,44 & 5,475 & 3,650 & 2,887 &  present \\
 Foreign Off. & 1,987 & 6,378 & 5,659 & 5,964 &  random\\
 Attorneys & 14,958 & 10,930 & 10,624 & 10,166 &  present\\
   \hline
\end{tabular}
\end{table}

% latex table generated in R 3.1.2 by xtable 1.7-4 package, size 12
% Sun Feb  1 16:07:33 2015, based on
xtable(report.yk[c(1,3,4,5,2),c(1,2,4,5,3,6)])
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,1.5cm}}
\renewcommand{\tablename}{Table}
\setcounter{table}{16}
\caption{Expected and observed values, Yule's $K$, for surnames at the 0.05
level of significance}
\begin{tabular}{lrrrrr}
  \hline
 Dataset & \textit{n} & Exp. & 5\% Cutoff (\textbackslash) & Obs. & Consan. \\
  \hline
 Politicians & 2,587 & 2.158 & 2.504 & 3.281 & present \\
 Judges & 3,094 & 2.157 & 2.465 & 3.011 & present \\
 Notaries & 444 & 2.15 & 3.145 & 3.551 & present \\
 Foreign Off. & 1,987 & 2.16 & 2.563 & 2.107 & random\\
 Attorneys & 14,958 & 2.161 & 2.286 & 2.126 & random\\
   \hline
\end{tabular}
\end{table}

% latex table generated in R 3.1.2 by xtable 1.7-4 package, size 12
% Mon Feb  2 11:33:01 2015, generated by using
xtable(report.r2[c(1,6,8,9),c(1,2,4,5,3,6,7,8)])
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,-1cm}}
\renewcommand{\tablename}{Table}
\setcounter{table}{17}
\caption{Expected and observed values for \textit{rank 2+} at the 0.05 level of
significance}
\begin{tabular}{lrrrrrrr}
  \hline
 Dataset & \textit{n} & Exp. & 5\% Cutoff (\textbackslash) & Obs. & Dist. & in \
% of \textit{n} & Concl. \\
  \hline
 Politicians' surnames & 2,587 & 648 & 692 & 803 & 111 & 4.29 &  non-random \\
 Politicians' first names & 2,579 & 2,422 & 2,439 & 2,464 & 25 & 0.97 &  non-
random\\
 Lawyers' surnames{$^*$} & 18,496 & 10,074 & 10,192 & 10,614 & 422 & 2.28 & non-
random \\
 Lawyers' first names{$^*$} & 18,470 & 18,078 & 18,106 & 18,105 & -1 &
\textit{NA} & random\\
   \hline
\multicolumn{8}{l}{\small {\textsc{Note:} \text{$^*$ These datasets of legal
practitioners aggregate all judges, notaries and attorneys.}}} \\
   \hline
```

```
\end{tabular}
\end{table}

% latex table, size 12
% Sun Feb 1 2015
% put in preamble: \usepackage{pifont} % http://ctan.org/pkg/pifont diacritic
characters
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,-1cm}}
\renewcommand{\tablename}{Table}
\setcounter{table}{18}
\caption{Indicators of consanguinity through surnames}
\begin{tabular}{lrrrr}
  \hline
 Dataset & \textit{n} & \textit{rank 2+} & Fisher's $\alpha$ & Yule's $K$ \\
  \hline
 Politicians & 2,587 & \checkmark & \checkmark & \checkmark \\
 Judges & 3,094 & \checkmark & \checkmark & \checkmark \\
 Notaries & 444 & \checkmark & \checkmark &  \checkmark \\
 Foreign Off. & 1,987 & \ding{55} & \ding{55} & \ding{55} \\
 Attorneys & 14,958 & \checkmark & \checkmark & \ding{55} \\
   \hline
\multicolumn{5}{l}{\small {\textsc{Note:} \text{A check mark indicates
consanguinity passing the 0.05}}} \\
\multicolumn{5}{l}{\small {threshold of significance.}} \\
   \hline
\end{tabular}
\end{table}
```

TABLE 20 Experimental layout of this dissertation

<table>
<tr><td colspan="3">(i) The systemic conflict: Is it fair when politicians prefer their kin in occupational following?</td></tr>
<tr><td rowspan="2">A. Original position, deliberation

Under the veil of ignorance, I can imagine to occupy the station in which one is born into a non-dynastic family and incur damage in one's chances to become a politician on one's own due to a preference given to kin among political dynasties. Lessening opportunities of others to occupy positions of power is unfair because it lessens opportunities, wealth and income of those who are non-dynastic. Then, occupational following in politics is unfair. Political nepotism is unfair.</td><td colspan="2">B. Original arbitration, deliberation

Party 1 (woman, politician): A preference of kin in political appointments is fair to one's own children, everyone would do this.

Party 2 (man, non-politician): I am born into a non-dynastic family and incur damage in my chances to become a politician on my own due to a preference given to kin among political dynasties. Positions of power in a liberal democracy are public assets and not private fiefdoms of their occupants.</td></tr>
<tr><td>(1) Following Rawls's original position deliberation (A), political nepotism is found unfair by both parties. Both parties agree with party 1's recognising other uncontroversial opportunities which an offspring affiliation with parents-politicians brings; and they agree with party 2's pursuit of increasing his chances to become a politicians when political dynasties are banned, systemically.</td><td>(2) Party 1 (woman, politician) convinces party 2 (man, non-politician) that her daughter is the best qualified person for the job who is unlikely to engage in corrupt behaviour because she wants to avoid hampering chances of her offspring to enter politics, and that the free elections is a device to deny occupational following to her daughter when she turns out to be corrupt. In exchange, the party 2 is offered an improved incentive (presumed) in dynastic politicians to avoid corruption as they have a higher stake in remaining in politics than non-dynastic politicians and therefore are argued to be less prone to corruption. Party 2 accepts this award in political accountability. Awards are accepted, mutually, therefore they are considered fair. The form of political nepotism which is curtailed rather by free elections and decreased corruption is not banned, systemically.</td></tr>
<tr><td colspan="3">(ii) Hypothetically, political nepotism is:</td></tr>
<tr><td>Denied</td><td>Denied</td><td>Allowed</td></tr>
<tr><td colspan="3">(iii) When a consanguinity is observed among politicians, does the empirical observation comply?</td></tr>
<tr><td>No</td><td>No</td><td>Yes</td></tr>
</table>

```
\begin{table}[ht]
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,-1cm}}
\renewcommand{\tablename}{Table}
\setcounter{table}{20}
\caption{Two theories of justice}
\begin{tabular}{llll}
  \hline
& type of\ldots & as Fairness & as Equity \\
 \hline
(1) & aim:  & fairness & amicable settlement \\
(2) & premise: & arbitrariness of endowments & arbitrariness in disputes \\
(3) & device: & original position & original arbitration \\
```

```
(4) & impartiality: & veil of ignorance & agreement over awards \\
(5) & justification: & by the least advantaged & in a trade-off of awards \\
   \hline
\multicolumn{4}{l}{\footnotesize {\textsc{Note:} \text{The theory of justice as
fairness corresponds to the theory by John Rawls (1999).}}} \\
   \hline
\end{tabular}
\end{table}
```

```
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={0cm,0cm}}
\renewcommand{\tablename}{Figure}
\setcounter{table}{0}
\caption{Sonnet 24 by William Shakespeare (1609), reproduced from the original
quarto in 1892. Digitized by \textit{Google} from a bound copy marked
\textit{Harvard College Library}.}
\end{table}

% Yule's K, original formula, set size to 12
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={-1.5cm,5cm}}
\renewcommand{\tablename}{Figure}
\setcounter{table}{1}
\begin{tabular}{r}
\Large{$K=10^4\times\frac{S_2-S_1}{S_1^2}$} \\
\end{tabular}
\caption{Yule's $K$, the original formula as developed by G. Udny Yule (1944)}
\end{table}

% Yule's K formula, set size to 12
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={-1.5cm,5cm}}
\renewcommand{\tablename}{Figure}
\setcounter{table}{2}
\begin{tabular}{r}
\Large{$K=\frac{10^4}{N^2}\times\left(\sum_{i=1}^Ni^2V_i-N\right)$} \\
\end{tabular}
\caption{Yule's $K$, formula by McElduff et al. (2008), with an adjusted
annotation}
\end{table}

% Crow's estimate of unbiased random isonymy, size 12
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={-1.5cm,5cm}}
\renewcommand{\tablename}{Figure}
\setcounter{table}{3}
\begin{tabular}{r}
\Large{$I = \frac{\sum n_i(n_i-1)}{N(N-1)}$} \\
\end{tabular}
\caption{Unbiased random isonymy \{$I$\}, the formula as developed by James F.
Crow (1980)}
\end{table}

% Fisher's alpha, set size to 12
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={-1.5cm,5cm}}
```

```
\renewcommand{\tablename}{Figure}
\setcounter{table}{4}
\begin{tabular}{r}
\Large{$\alpha^\prime = \frac{N}{NI-1}$} \\
\end{tabular}
\caption{An estimate of Fisher's $\alpha$ from unbiased random isonymy \{$I$\}
as proposed by Barrai et al. (1992, 378)}
\end{table}

% Figure to accompany the R script below
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={-1.5cm,5cm}}
\renewcommand{\tablename}{Figure}
\setcounter{table}{5}
\caption{Czech Republic political mandates by office in 1994 to 2012}
\end{table}

# R script to figure 6:
mytable<-table(s.2$office)
pct <- round(mytable/sum(mytable)*100)
lbls<-paste(names(mytable),"\n",mytable,sep="")
lbls <- paste(lbls, " (", pct, "%)", sep="") # add percents to labels
pie(mytable, labels=lbls) # main="Chart 1: Czech Republic Political Mandates by
Office\n in 1994 to 2012"
rm(lbls,pct,mytable)
# this creates a list of frequencies: data.frame(table(s.2$office))

% Figure to accompany the R script below
% put this to preamble \usepackage{caption}
\begin{table}
\captionsetup{margin=5pt, labelfont=sc, justification = raggedright,
singlelinecheck = off, labelsep = space, format = hang, margin={-1.5cm,0cm}}
\renewcommand{\tablename}{Figure}
\setcounter{table}{6}
\caption{Random occurrence of \textit{rank 2+} with 5\% of cases marked in
\color{red}{red}}
\end{table}

# R script pertaining to the figure above
# Histograms of random frequencies of rank 2+
r2.p <- as.numeric(report.2.set[2,-1]) # vector of rank 2+; test normality by
ks.test(r2, "pnorm", mean = mean(r2), sd = sd(r2)) # politicians
r2.j <- as.numeric(report.4.set[2,-1]) # vector of rank 2+, judges
r2.n <- as.numeric(report.5.set[2,-1]) # vector of rank 2+, notaries
r2.f <- as.numeric(report.6.set[2,-1]) # vector of rank 2+, FO
r2.a <- as.numeric(report.3.set[2,-1]) # vector of rank 2+, attorneys

par(mfrow=c(3,2))
tmp <- table(r2.p) # for politicians
plot(tmp, main="Chart 1: Politicians", xlab = paste0("Rank 2+ of ", sum(tmp), "
random samples, each n = ", report.o[7,2], "\n The 5% cutoff is ",
report.exp[11,2]), ylab = "Freq. of Cases", col =
ifelse((as.integer(rownames(tmp)) > report.exp[11,2]), "red", "black"))
tmp <- table(r2.j) # for judges
plot(tmp, main="Chart 2: Judges", xlab = paste0("Rank 2+ of ", sum(tmp), "
random samples, each n = ", report.o[7,4], "\n The 5% cutoff is ",
```

```
report.exp[11,4]), ylab = "Freq. of Cases", col =
ifelse((as.integer(rownames(tmp)) > report.exp[11,4]), "red", "black"))
tmp <- table(r2.n) # for notaries
plot(tmp, main="Chart 3: Notaries", xlab = paste0("Rank 2+ of ", sum(tmp), "
random samples, each n = ", report.o[7,5], "\n The 5% cutoff is ",
report.exp[11,5]), ylab = "Freq. of Cases", col =
ifelse((as.integer(rownames(tmp)) > report.exp[11,5]), "red", "black"))
tmp <- table(r2.f) # for FO civil servants
plot(tmp, main="Chart 4: Foreign Off.", xlab = paste0("Rank 2+ of ", sum(tmp), "
random samples, each n = ", report.o[7,6], "\n The 5% cutoff is ",
report.exp[11,6]), ylab = "Freq. of Cases", col =
ifelse((as.integer(rownames(tmp)) > report.exp[11,6]), "red", "black"))
tmp <- table(r2.a) # for attorneys
plot(tmp, main="Chart 5: Attorneys", xlab = paste0("Rank 2+ of ", sum(tmp), "
random samples, each n = ", report.o[7,3], "\n The 5% cutoff is ",
report.exp[11,3]), ylab = "Freq. of Cases", col =
ifelse((as.integer(rownames(tmp)) > report.exp[11,3]), "red", "black"))
# title(“Random Occurrence of 'rank 2+' with 5% of cases marked in red", outer =
TRUE, line = -1)

rm(r2.p, r2.j, r2.n, r2.f, r2.a, tmp)
```

R Protocol: Formatting, Platform and Processing Concerns

Please note that all scripts are required to remove smart quotes. Certain issues arise from converting data between .XLS and .CSV, and from moving data between Windows OS a OS X. The R environment requires properly set English locale and UTF-8 encoding on the local machine and in cluster computing (CESNET 2013) or it does not process accented characters properly. Note that an R's improper processing of data due to improper locale and mis-encoding is not obvious from the results immediately as R reports no error.

R Protocol: Processing Czech Population Data, Surnames

```
###################################
# R Protocol: Processing Czech
Population Data, Surnames
###################################
# (1) Import the source surname data
to R:
# After downloading the source data
from (Ministerstvo vnitra 2013)
# http://www.mvcr.cz/soubor/
stobyv-20131105-zip.aspx, unpack the
archive
# .ZIP and save data in .CSV by table
named table1.csv, table2.csv,
table3.csv,
# table4.csv and table5.csv. Save
the .CSV files in the R work
directory.

table1 <- read.csv(file =
"table1.csv", header = TRUE,
stringsAsFactors = FALSE)
table2 <- read.csv(file =
"table2.csv", header = TRUE,
stringsAsFactors = FALSE)
table3 <- read.csv(file =
"table3.csv", header = TRUE,
stringsAsFactors = FALSE)
table4 <- read.csv(file =
"table4.csv", header = TRUE,
stringsAsFactors = FALSE)
table5 <- read.csv(file =
"table5.csv", header = TRUE,
stringsAsFactors = FALSE)
x <- rbind(table1, table2, table3,
table4, table5) # Loading the
workhorse.
rm(table1, table2, table3, table4,
table5)

# Test of empty frequencies: empty
frequencies can be added during
conversion between the source .XLS
to .CSV format.

if(any(is.na(x[,2]))){
print("The data contain NA values in
the second column. The next step will
delete the line.")
print(subset(x, is.na(x[, 2]) ==
TRUE))
del <- sapply(x[,2], function(x)
{any(is.na(x))})
} else {
print("The data do not contain NA
values in the second column.")
}

if(any(is.na(x[,2]))){
x <- x[!del,]
rm(del)
}

row.names(x) <- 1:nrow(x)

s.source.master <- x # Offloading the
workhorse.
rm(x)

# Converting "TRUE" to "PRAVDA":
depending on the location and OS,
during conversion from .XLS to .CSV
the software may mistakenly interpret
a legitimate surname "PRAVDA" while
opening the .XLS file and assign a
logical value 1 to the cell instead of
retaining the string. This logical
value can then, during conversion
to .CSV, export as a surname string
"TRUE" while there already exists a
legitimate surname "TRUE" in the data.

x <- s.source.master

if(nrow(x[x[,1] == "TRUE",]) > 1) {
print("Warning: in data, there is a
surname TRUE, which is surname PRAVDA.
The substitution will be performed at
position 184500. This is the list of
surname TRUE:")
print(x[x[,1] == "TRUE",])
} else print("In the data, there was
no mistaken replacement of TRUE for
PRAVDA.")
```

```
if(x[184500,1] == "TRUE") x[184500,1]
<- "PRAVDA" else print("In the data,
there is no substitution of PRAVDA for
TRUE necessary.")

# Change of a mistaken "SEMRÁDOV Á" to
the correct "SEMRÁDOVÁ":

if(any(x[,1] == "SEMRÁDOV Á")){
print("In the data, the mistaken
SEMRÁDOV Á will be replaced for
SEMRÁDOVÁ.")
x[x[,1] == "SEMRÁDOV Á",1] <-
"SEMRÁDOVÁ"
}

s.source.master <- x
rm(x)

###################################
# (2) Cleaning the Dataset

x <- s.source.master
gsub2 <- function(pattern,
replacement, x, ...) {
for(i in 1:length(pattern))
x <- gsub(pattern[i], replacement[i],
x, ...)
x
} # This is a generic from-to
replacement function.

# Removing typos, while the following
transformation neglects the
possibility that "´" can stand for a
"hook" diacritical; see "L´" which can
stand for either a legitimate "Ľ" or
"L'".

from <- c("  ", "O ´", "D´ ", "´ ",
"´", "`", "D' ", "' ")
to <- c(" ", "O'", "D'", "'", "'",
"'", "D'", "'")
x <- data.frame(surname = gsub2(from,
to, x[,1]), freq = x[,2],
stringsAsFactors = FALSE)
rm(from, to)

# Aggregating frequencies in identical
surnames
if (length(x[duplicated(x[,1]),1]) >
0) {
print("This is the list of duplicate
surnames:")
print(x[duplicated(x[,1]),1])
print("Now, frequencies of duplicate
surnames will be aggregated.")
x.a <- aggregate(x = x[,2], by =
list(x[,1]), FUN = sum)
colnames(x.a) <- colnames(x)
x <- x.a
rm(x.a)
} else print("There are no duplicate
surnames, in the data.")

paste0("Number of items with different
surnames is now ", nrow(x), " of the
original  ", nrow(s.source.master),
".")

# Number of spaces in surname fields.

spaces.ab <-
matrix(sapply(strsplit(as.character(x[
,1]), " "), length)-1)
x <- cbind(x, spaces.ab = spaces.ab[,
1])
rm(spaces.ab)

paste0("In field surname there are ",
nrow(subset(x, spaces.ab >= 1)), "
items which contain at least one
space.")

# Substitution of some spaces.
Deleting Spanish surname conjunctions
(Y a E), dashes between spaces, spaces
after apostrophy, converting the
French " DIT " to "-DIT-" ("said"), in
any position of the field.

from <-c ("ABU AL "," AL ","ABA
S","ABD EL ","ABD ","ABI ","ABOU EL
","ABOU ","ABU ","AIT EL ","BEN ","DE
LA "," DA "," DI ","DE LOS "," DOS ","
DEL ","VAN DE ","VAN DER ","VAN DEN
"," VON "," UND "," DE ", " VAN ", "
EL ", "MAC ", " Y ", " E ", " - ","
DAL B", " LA ", " LE ", " DIT ", " MÁC
AN ", " MC ", " SAN ", " OP HET ", "
DO ESPIRITO SANTO", " DES ")
to <- c("ABU_AL_"," AL_", "ABA_S",
"ABD_EL_", "ABD_", "ABI_", "ABOU_EL_",
"ABOU_",
"ABU_","AIT_EL_","BEN_","DE_LA_","
DA_"," DI_","DE_LOS_"," DOS_"," DEL_",
"VAN_DE_", "VAN_DER_", "VAN_DEN_", "
VON_","_UND_", " DE_", " VAN_", "
EL_", "MAC_", " ", " ", " ", " DAL_B",
" LA_", " LE_", "-DIT-", " MÁC_AN_", "
MC_", " SAN_", " OP_HET_", "
DO_ESPIRITO_SANTO", " DES_")

cache <- gsub2(from,to,x[,1])
rm(from, to)
```

```
from <- c("VON ", "VAN ", "DELA ",
"DEL ", "DOS ", "DI ", "DA ", "AIT ",
"EL ", "AL ", "DE ", "DAL B", "LA ",
"LE ", "MÁC AN ", "MC ", "OP HET ","DO
ESPIRITO SANTO", "O ", "O' ", "LO ",
"LI ", "DES ", "DO MONTE", "Ó ", "ZA
")
to <- c("VON_", "VAN_", "DELA_",
"DEL_", "DOS_", "DI_", "DA_", "AIT_",
"EL_", "AL_", "DE_", "DAL_B", "LA_",
"LE_", "MÁC_AN_", "MC_", "OP_HET_",
"DO_ESPIRITO_SANTO", "O_", "O'_",
"LO_", "LI_", "DES_", "DO_MONTE",
"Ó_", "ZA_")

from.g <- paste0("^", from) # Matches
the beginning of each line.
x <- cbind(x, surname.2 =
gsub2(from.g, to, cache),
stringsAsFactors = FALSE)
rm(from,to,from.g,cache)

# Number of spaces which divide
surnames to constituent surnames
spaces.b <-
matrix(sapply(strsplit(as.character(x[
,4]), " "), length)-1)
x <- cbind(x, spaces.b = spaces.b[,1])
rm(spaces.b)

paste0("In surname field, now there
are ", nrow(subset(x, spaces.b >= 1)),
" items which contain at least one
space.")

rm(gsub2)

s.source <- x
rm(x)

####################################
# (3) Dividing by space, retaining
frequency by surname constituent

x <- s.source[,c(4,2,5)] # loading and
forgetting surname, spaces.ab

paste0("An example of surnames which
will be divided, at each space:")
subset(x = x, x[,3] > 0)[sample(x =
1:nrow(subset(x = x, x[,3] > 0)), size
= 5, replace = FALSE), 1]

paste0("Surnames noted for an
analysis:")
sample <- c("ALBERFREIFRAU
VON_GLANSTÄTTENOVÁ", "SUKEĹOVÁ",
"ŠEBEKLOUBALOVÁ", "L'HELGOUALC'H",
"ŠÉ")
cbind(surname = sample)
rm(sample)

w <- 1/(x[,3]+1) # transforming
spaces.b to weighted frequency
w.t <- x[,2]+x[,2]*(x[,3]) # determine
the times for rep.int
w <- rep.int(x = w, times = w.t) #
assigning weight to surname position
after split
x <- rep.int(x = x[,1], times = x[,2])
# de-aggregating surnames
x.l <- strsplit(x = x, split = " ") #
splitting to constituent parts
x <- unlist(x.l)
rm(x.l,w.t)

# check spaces at the start and end,
checking NA values
grep(pattern = "^ ", x = x)
grep(pattern = " $", x = x)
x[is.na(x)]

####################################
# (4) Aggregating surnames and
frequencies

# create the population surname
reference table, incl. weighted
frequencies
x <- data.frame(s = x, freq =
rep.int(1, length(x)), freq.w = w)
x <- aggregate(x = x[,2:3], by =
list(x[,1]), FUN = sum)
colnames(x)[1] <- "s"
rm(w)

# revert underscore back to space
x[,1] <- sapply(X = x[,1], FUN = gsub,
pattern = "_", replacement = " ")

popul <- x
rm(x)

####################################
# (5) Report

paste0("There are ", sum(s.source[,5]
> 0), " surnames which are made of 2
to ", (max(s.source[,5]) + 1),"
constituent elements which will have
been broken apart to aggregate to
unique surnames. Originally, there
were, ", nrow(s.source.master), "
surnames provided by the Ministry of
Interior (2013). Before aggregation,
there were ", nrow(s.source), "
different surnames listed in the
source database after an adjustement
```

```
for typos. After aggregation, there
were found to be ", nrow(popul)," 
unique surnames, in the population.
This is a decrease by ",
round(100-100*nrow(popul)/
nrow(s.source), 2), "%.")
paste0("There are ", sum(s.source
$spaces.b > 0)," surnames which are
made of two or more surname compounds.
After aggregating these coumpounds ,
there are now ", nrow(popul), " unique
surnames, generated from ",
nrow(s.source), " original surnames
contained in the source database.")
paste0("The sum of  frequencies of
surnames which equals to the total
population size is ", sum(s.source[,
2]), " persons in the source. This
needs to equal to the sum of weighed
frequencies freq.w after
transformations, which is ",
sum(popul[,3]), " persons. The sum of
unweighted frequencies is now ",
sum(popul[,2]), ". This sum gives the
total number of surnames held in the
population.")
paste0("The beginning and end of the
dataset:"); rbind(head(popul[,1:3]),
cbind(s = "...", freq = "...", freq.w
= "..."), tail(popul[,1:3]), cbind(s =
"suma", freq = sum(popul[,2]), freq.w
= sum(popul[,3])))
paste0("Ten most frequent surnames:
"); popul[order(x = popul[,2],
decreasing = TRUE),][1:10,]
summary(popul)[,2:3]

###################################
# (6) Experimental Algorithm D2:
Grouping by trivial similarity

x <- popul

gsub2 <- function(pattern,
replacement, x, ...) {
for(i in 1:length(pattern)) x <-
gsub(pattern[i], replacement[i],
x, ...)
x
} # This is a generic from-to
replacement function.

# Change the first letter to lower
case to avoid the first letter
substitutions.
x[,1] <- paste0(tolower(substr(x = x[,
1], start = 1, stop = 1)),substr(x =
x[,1], start = 2, stop = length(x[,
1])))

# Change custom strings to lower case
to avoid substitutions.
from <- c("^yE", "^aY")
to <- c("ye","ay")
x[,1] <- gsub2(pattern = from,
replacement = to, x = x[,1])

# Substitutions to reveal similarity,
note that the order is important.
from <- c("OVÁ$", "E", "Ý$", "Y$", "Á
$", "A$") # substitutions, note that
the order is important
to <- rep.int(x = "", times =
length(from))
if(length(colnames(unique)) < 4) {
x[,4] <- gsub2(pattern = from,
replacement = to, x = x[,1])
}
rm(gsub2, from, to)

# Return all surnames to upper case
again.
x[,1] <- toupper(x[,1])
x[,4] <- toupper(x[,4])

colnames(x)[4] <- "group"

popul <- x
rm(x)

###################################
# Report

x <- popul
x.gf <- aggregate(freq~group, data =
x, FUN = sum)
x.gw <- aggregate(freq.w~group, data =
x, FUN = sum)
colnames(x.gf) <- c("group","freq.g")
colnames(x.gw) <- c("group","freq.gw")
x.m <- merge(x, x.gf)
result <- merge(x.m, x.gw)
result.f <- result[duplicated(result[,
1])==FALSE,][,c(1, 5:6)]
rm(x,x.m,x.gf,x.gw)

paste0("The total sum of surnames is
", nrow(result), ". The dataset is
grouped by similarity to ",
nrow(result.f), " groups. This is a
decrease by ", round(x = (1-
nrow(result.f)/nrow(result))*100,
digits = 2), "%.")

rm(result, result.f)
```

R Protocol: Processing Czech Population Data, First Names

```
###################################
# R Protocol: Processing Czech
Population Data, First Names
###################################
# (1) Import the source data,
population first names obtained from
the Czech Ministry of Interior in
November 2014, primed in November 2014
as part of paper for "2014 Democracy,
State and Informal Politics in
Comparative Perspective" conference
held in Prague:

fn.source.master <- read.csv(file =
"cetnost-jmena-dnar-sums.csv", head =
TRUE, as.is = TRUE)

x <- fn.source.master
x <- x[-as.integer(rownames(x[x[,
1]=="TEST A",])),] # remove item "TEST
A" which seems included by mistake.
rownames(x)<- c(1:nrow(x))
fn.source.master <- x
fn.source <- x
rm(x)

###################################
# (2) Adjustments, aggregation

x <- fn.source

# check spaces in the start and at the
end
grep(pattern = "^ ", x = x[,1])
grep(pattern = " $", x = x[,1])

paste0("There are ",
nrow(x[grep(pattern = "-", x = x[,
1]),]), " first names which contain a
dash. In total, there are, ",
sum(x[grep(pattern = "-", x = x[,1]),
2])," people who hold these names.
Only those dashes which are enveloped
in spaces will be converted to space
before further processing.")

# custom removing string " - " in all
cases
x[,1] <- gsub(pattern = " - ",
replacement = " ", x = x[,1])

# aggregate to sum frequencies
x <- aggregate(x = x[,2], by =
list(x[,1]), FUN = sum)
colnames(x) <- c("f", "freq")
fn.source <- x
rm(x)

###################################
# (3) Break first names down by space
to constitutive elements and aggregate
frequencies, create weighted
frequency. This method is identical to
the method frequencies are determined
in the 2013 surname dataset. This
method is superior to the method
stored in "R.2014.11.Conference.r"
protocol as it retains weighted
frequencies.

x <- fn.source

paste0("There are ",
nrow(x[grep(pattern = " ", x = x[,
1]),])," different first names which
contain a space which indicates these
names are made of various constitutive
first names. There are ",
sum(x[grep(pattern = " ", x = x[,1]),
2]), " people who bear these first
names. That is, there is ",
round(100*sum(x[grep(pattern = " ", x
= x[,1]),2])/sum(x[,2]), digits =
2),"% of population which bear first
names composed of constitutive
elements.")

# Number of spaces in first name
fields
spaces.b <-
matrix(sapply(strsplit(as.character(x[
,1]), " "), length)-1)
x <- cbind(x, spaces.b = spaces.b[,1])
rm(spaces.b)

paste0("Check: In field surname there
are ", nrow(subset(x, spaces.b >= 1)),
" items which contain at least one
space.")

paste0("An example of first names
which will be divided, at each
space:")
subset(x = x, x[,3] > 0)[sample(x =
1:nrow(subset(x = x, x[,3] > 0)), size
= 5, replace = FALSE), 1]

w <- 1/(x[,3]+1) # transforming
spaces.b to weighted frequency
w.t <- x[,2]+x[,2]*(x[,3]) # determine
the times for rep.int
w <- rep.int(x = w, times = w.t) #
assigning weight to the proper
position after split
```

```
x <- rep.int(x = x[,1], times = x[,2])
# de-aggregating first names
x.l <- strsplit(x = x, split = " ") #
splitting to constituent parts
x <- unlist(x.l)
rm(x.l,w.t)

# check spaces at the start and end,
checking NA values
grep(pattern = "^ ", x = x)
grep(pattern = " $", x = x)
x[is.na(x)]

###################################
# (4) Aggregating first names and
frequencies

# create the population first name
reference table, incl. weighted
frequencies
x <- data.frame(s = x, freq =
rep.int(1, length(x)), freq.w = w)
x <- aggregate(x = x[,2:3], by =
list(x[,1]), FUN = sum)
colnames(x)[1] <- "f"
rm(w)

firstn <- x
rm(x)

# Report:
paste0("There have been ",
nrow(fn.source) ," entries imported
which capture the first names of the
population of ", sum(fn.source[,2]),
". When multiple first names are
broken down to their constituent
elements, there are ", nrow(firstn), "
unique first names in use. The
population shares ", sum(firstn[,2]),
" first names among them due to some
individuals having more than one first
name. The first 100 most frequent
first names are shared among ",
round(100*(sum(firstn[order(firstn[,
2], decreasing = TRUE),2][1:100])/
sum(firstn[,2])), digits = 1), "% of
the population.")
```

R Protocol: Processing Czech Elections Data

```
###################################
# R Protocol: Processing Processing
Czech Elections Data
###################################
# Extracting Observed Surnames and
First Names

# (1) Import source .CSV files to R.
The source files are stored in the
"Czech Election Data" folder, copies
are maintained in the R workspace
director.

s.ep.04 <- read.csv(file = "e.EP.
04.csv", head = TRUE, stringsAsFactor
= FALSE)
s.ep.09 <- read.csv(file = "e.EP.
09.csv", head = TRUE, stringsAsFactor
= FALSE)
s.kra.00 <- read.csv(file = "e.Kraje.
00.csv", head = TRUE, stringsAsFactor
= FALSE)
s.kra.04 <- read.csv(file = "e.Kraje.
04.csv", head = TRUE, stringsAsFactor
= FALSE)
s.kra.08 <- read.csv(file = "e.Kraje.
08.csv", head = TRUE, stringsAsFactor
= FALSE)
s.kra.12 <- read.csv(file = "e.Kraje.
12.csv", head = TRUE, stringsAsFactor
= FALSE)
s.pra.02 <- read.csv(file = "e.Praha.
02.csv", head = TRUE, stringsAsFactor
= FALSE)
s.pra.06 <- read.csv(file = "e.Praha.
06.csv", head = TRUE, stringsAsFactor
= FALSE)
s.pra.10 <- read.csv(file = "e.Praha.
10.csv", head = TRUE, stringsAsFactor
= FALSE)
s.pra.94 <- read.csv(file = "e.Praha.
94.csv", head = TRUE, stringsAsFactor
= FALSE)
s.pra.98 <- read.csv(file = "e.Praha.
98.csv", head = TRUE, stringsAsFactor
= FALSE)
s.psp.02 <- read.csv(file = "e.PSP.
02.csv", head = TRUE, stringsAsFactor
= FALSE)
s.psp.06 <- read.csv(file = "e.PSP.
06.csv", head = TRUE, stringsAsFactor
= FALSE)
s.psp.10 <- read.csv(file = "e.PSP.
10.csv", head = TRUE, stringsAsFactor
= FALSE)
s.psp.96 <- read.csv(file = "e.PSP.
96.csv", head = TRUE, stringsAsFactor
= FALSE)
s.psp.98 <- read.csv(file = "e.PSP.
98.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.00 <- read.csv(file = "e.Senát.
00.csv", head = TRUE, stringsAsFactor
= FALSE)
```

```
s.sen.02 <- read.csv(file = "e.Senát.
02.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.03 <- read.csv(file = "e.Senát.
03.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.04 <- read.csv(file = "e.Senát.
04.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.06 <- read.csv(file = "e.Senát.
06.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.07 <- read.csv(file = "e.Senát.
07.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.08 <- read.csv(file = "e.Senát.
08.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.10 <- read.csv(file = "e.Senát.
10.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.12 <- read.csv(file = "e.Senát.
12.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.96 <- read.csv(file = "e.Senát.
96.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.98 <- read.csv(file = "e.Senát.
98.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.99 <- read.csv(file = "e.Senát.
99.csv", head = TRUE, stringsAsFactor
= FALSE)
s.sen.11 <- read.csv(file = "e.Senát.
11.csv", head = TRUE, stringsAsFactor
= FALSE)

# Add information about type of
office, year of elections, and
estimate year of birth
s.ep.04 <- cbind(s.ep.04, yob = 2004-
s.ep.04$Kandidát...věk,
office="European Parliament", el.year
= 2004)
s.ep.09 <- cbind(s.ep.09, yob = 2009-
s.ep.09$Kandidát...věk,
office="European Parliament", el.year
= 2009)
s.kra.00 <-cbind(s.kra.00, yob = 2000-
s.kra.00$Kandidát...věk, office="Reg.
Assembly",el.year = 2000)
s.kra.04 <-cbind(s.kra.04, yob=2004-
s.kra.04$Kandidát...věk, office="Reg.
Assembly", el.year=2004)
s.kra.08 <-cbind(s.kra.08,yob=2008-
s.kra.08$Kandidát...věk,office="Reg.
Assembly", el.year=2008)
s.kra.12 <-cbind(s.kra.12,yob=2012-
s.kra.12$Kandidát...věk,office="Reg.
Assembly", el.year=2012)
s.pra.02 <-cbind(s.pra.02,yob=2002-
s.pra.02$Kandidát...věk,office="Prague
Municipality", el.year=2002)
s.pra.06 <-cbind(s.pra.06,yob=2006-
s.pra.06$Kandidát...věk,office="Prague
Municipality",el.year=2006)
s.pra.10 <-cbind(s.pra.10,yob=2010-
s.pra.10$Kandidát...věk,office="Prague
Municipality",el.year=2010)
s.pra.94 <- cbind(s.pra.94,yob=1994-
s.pra.94$Kandidát...věk,office="Prague
Municipality",el.year=1994)
s.pra.98 <-cbind(s.pra.98,yob=1998-
s.pra.98$Kandidát...věk,office="Prague
Municipality",el.year=1998)
s.psp.02 <-cbind(s.psp.02,yob=2002-
s.psp.
02$Kandidát...věk,office="Chamber of
Deputies",el.year=2002)
s.psp.06 <-cbind(s.psp.06,yob=2006-
s.psp.
06$Kandidát...věk,office="Chamber of
Deputies",el.year=2006)
s.psp.10 <-cbind(s.psp.10,yob=2010-
s.psp.
10$Kandidát...věk,office="Chamber of
Deputies",el.year=2010)
s.psp.96 <-cbind(s.psp.96,yob=1996-
s.psp.
96$Kandidát...věk,office="Chamber of
Deputies",el.year=1996)
s.psp.98 <-cbind(s.psp.98,yob=1998-
s.psp.
98$Kandidát...věk,office="Chamber of
Deputies",el.year=1998)
s.sen.00 <- cbind(s.sen.00, yob =
2000-s.sen.00$Kandidát...věk, office =
"Senate", el.year=2000)
s.sen.02 <- cbind(s.sen.02, yob =
2002-s.sen.02$Kandidát...věk,
office="Senate", el.year = 2002)
s.sen.03 <- cbind(s.sen.03, yob =
2003-s.sen.03$Kandidát...věk,
office="Senate", el.year = 2003)
s.sen.04 <- cbind(s.sen.04, yob =
2004-s.sen.04$Kandidát...věk,
office="Senate", el.year = 2004)
s.sen.06 <- cbind(s.sen.06, yob =
2006-s.sen.06$Kandidát...věk,
office="Senate", el.year = 2006)
s.sen.07 <- cbind(s.sen.07, yob =
2007-s.sen.07$Kandidát...věk,
office="Senate", el.year = 2007)
s.sen.08 <- cbind(s.sen.08, yob =
2008-s.sen.08$Kandidát...věk,
office="Senate", el.year = 2008)
```

```
s.sen.10 <- cbind(s.sen.10, yob =
2010-s.sen.10$Kandidát...věk,
office="Senate", el.year = 2010)
s.sen.12 <- cbind(s.sen.12, yob =
2012-s.sen.12$Kandidát...věk,
office="Senate", el.year = 2012)
s.sen.96 <- cbind(s.sen.96, yob =
1996-s.sen.96$Kandidát...věk,
office="Senate", el.year = 1996)
s.sen.98 <- cbind(s.sen.98, yob =
1998-s.sen.98$Kandidát...věk,
office="Senate", el.year = 1998)
s.sen.99 <- cbind(s.sen.99, yob =
1999-s.sen.99$Kandidát...věk,
office="Senate", el.year = 1999)
s.sen.11 <- cbind(s.sen.11, yob =
2011-s.sen.11$Kandidát...věk,
office="Senate", el.year = 2011)

###################################
# (2) Aggregate <surnames, first
names, academic titles>, estimated
year of birth, type of office and
election year from all source data

# format 1 of sfa: s.ep.04, s.ep.09,
s.kra.00, s.kra.04, s.kra.08, s.kra.
12, s.pra.06, s.pra.10, s.psp.06,
s.psp.10, s.sen.00, s.sen.02, s.sen.
03, s.sen.04, s.sen.06, s.sen.07,
s.sen.08, s.sen.10, s.sen.11, s.sen.
12, s.sen.96, s.sen.98, s.sen.99

s.1 <- data.frame(sfa = s.ep.
04$Kandidát...příjmení..jméno..tituly,
yob = s.ep.04$yob, office = s.ep.
04$office,el.year = s.ep.
04$el.year,stringsAsFactors=FALSE)
s.1 <- rbind(s.1, data.frame(sfa =
s.ep.
09$Kandidát...příjmení..jméno..tituly,
yob = s.ep.09$yob, office = s.ep.
09$office, el.year = s.ep.09$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.kra.
00$Kandidát...příjmení..jméno..tituly,
yob = s.kra.00$yob, office = s.kra.
00$office,el.year = s.kra.00$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.kra.
04$Kandidát...příjmení..jméno..tituly,
yob = s.kra.04$yob, office = s.kra.
04$office,el.year = s.kra.04$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.kra.
08$Kandidát...příjmení..jméno..tituly,
yob = s.kra.08$yob, office = s.kra.
08$office,el.year = s.kra.08$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.kra.
12$Kandidát...příjmení..jméno..tituly,
yob = s.kra.12$yob, office = s.kra.
12$office,el.year = s.kra.12$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.pra.
06$Kandidát...příjmení..jméno..tituly,
yob = s.pra.06$yob, office = s.pra.
06$office,el.year = s.pra.06$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.pra.
10$Kandidát...příjmení..jméno..tituly,
yob = s.pra.10$yob, office = s.pra.
10$office,el.year = s.pra.10$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.psp.
06$Kandidát...příjmení..jméno..tituly,
yob = s.psp.06$yob, office = s.psp.
06$office,el.year = s.psp.06$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.psp.
10$Kandidát...příjmení..jméno..tituly,
yob = s.psp.10$yob, office = s.psp.
10$office,el.year = s.psp.10$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
00$Kandidát...příjmení..jméno..tituly,
yob = s.sen.00$yob, office = s.sen.
00$office,el.year = s.sen.00$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
02$Kandidát...příjmení..jméno..tituly,
yob = s.sen.02$yob, office = s.sen.
02$office,el.year = s.sen.02$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
03$Kandidát...příjmení..jméno..tituly,
yob = s.sen.03$yob, office = s.sen.
03$office,el.year = s.sen.03$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
04$Kandidát...příjmení..jméno..tituly,
yob = s.sen.04$yob, office = s.sen.
04$office,el.year = s.sen.04$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
```

```
06$Kandidát...příjmení..jméno..tituly,
yob = s.sen.06$yob, office = s.sen.
06$office,el.year = s.sen.06$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
07$Kandidát...příjmení..jméno..tituly,
yob = s.sen.07$yob, office = s.sen.
07$office,el.year = s.sen.07$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
08$Kandidát...příjmení..jméno..tituly,
yob = s.sen.08$yob, office = s.sen.
08$office,el.year = s.sen.08$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
10$Kandidát...příjmení..jméno..tituly,
yob = s.sen.10$yob, office = s.sen.
10$office,el.year = s.sen.10$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
11$Kandidát...příjmení..jméno..tituly,
yob = s.sen.11$yob, office = s.sen.
11$office,el.year = s.sen.11$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
12$Kandidát...příjmení..jméno..tituly,
yob = s.sen.12$yob, office = s.sen.
12$office,el.year = s.sen.12$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
96$Kandidát...příjmení..jméno..tituly,
yob = s.sen.96$yob, office = s.sen.
96$office,el.year = s.sen.96$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
98$Kandidát...příjmení..jméno..tituly,
yob = s.sen.98$yob, office = s.sen.
98$office,el.year = s.sen.98$el.year,
stringsAsFactors=FALSE))
s.1 <- rbind(s.1, data.frame(sfa =
s.sen.
99$Kandidát...příjmení..jméno..tituly,
yob = s.sen.99$yob, office = s.sen.
99$office,el.year = s.sen.99$el.year,
stringsAsFactors=FALSE))

###################################
# (3) Aggregate <surnames, first
names, academic titles>, estimated
year of birth, type of office and
election year from all source data

# format 2 of sf+a: s.pra.02, s.pra.
94, s.pra.98, s.psp.02

s.2 <- data.frame(yob = s.pra.02$yob,
office = s.pra.02$office, el.year =
s.pra.02$el.year, sf = s.pra.
02$Kandidát...příjmení..jméno, a =
s.pra.02$Kandidát...tituly,
stringsAsFactors=FALSE)
s.2 <- rbind(s.2, data.frame(yob =
s.pra.94$yob, office = s.pra.
94$office, el.year = s.pra.94$el.year,
sf = s.pra.
94$Kandidát...příjmení..jméno, a =
s.pra.94$Kandidát...tituly,
stringsAsFactors=FALSE))
s.2 <- rbind(s.2, data.frame(yob =
s.pra.98$yob, office = s.pra.
98$office, el.year = s.pra.98$el.year,
sf = s.pra.
98$Kandidát...příjmení..jméno, a =
s.pra.98$Kandidát...tituly,
stringsAsFactors=FALSE))
s.2 <- rbind(s.2, data.frame(yob =
s.psp.02$yob, office = s.psp.
02$office, el.year = s.psp.02$el.year,
sf = s.psp.
02$Kandidát...příjmení..jméno, a =
s.psp.02$Kandidát...tituly,
stringsAsFactors=FALSE))

# format 3 of safa: s.psp.96, s.psp.98

s.3 <- data.frame(safa = s.psp.
96$Kandidát...příjmení..jméno..tituly,
yob = s.psp.96$yob, office = s.psp.
96$office, el.year = s.psp.96$el.year,
stringsAsFactors=FALSE)
s.3 <- rbind(s.3, data.frame(safa =
s.psp.
98$Kandidát...příjmení..jméno..tituly,
yob = s.psp.98$yob, office = s.psp.
98$office, el.year = s.psp.98$el.year,
stringsAsFactors=FALSE))

###################################
# (4) Unify to the "s" master

# Dividing s.1 “sfa” format to
constitutive variables

# step 1: truncate trailing spaces:
cache<-s.1$sfa

# This command searches for weird
spaces: grep(" ",cache)
cache<-gsub(" "," ",cache) #
standardizes a weird space character
while (sum(grep("  ",cache))>0) {
```

```
cache<-gsub("  "," ",cache)
} # reduces double spaces to single
spaces, just in case.
cache<-gsub(" $","",cache) # removes
all trailing spaces

# This command tests for a space at
the start: grep("^ ",cache)

# Step 2: A. cut off all at two
spaces; right trail is “a” (now
impossible, see the above “  “<-” “
operation); or B. cut off the string
from first full stop minus first space
to the left until the end assuming
these are “a’s”; or C. create a list
of “a’s” to delete from name?
# Step 2.B, then:

cache.2<-vector()
a<-vector();a.c<-vector()
for (i in 1:length(cache))
{
x<-which(strsplit(cache[i], "")
[[1]]==".")
ifelse(test = length(x)>0,
yes=
{
splt.n<-x[1]-1
splt.s<-
substr(cache[i],start=1,stop=splt.n)
x<-which(strsplit(splt.s, "")[[1]]=="
")
splt.n<-x[length(x)]-1
splt.s<-
substr(splt.s,start=1,stop=splt.n)
a.c<-a.c<-substr(cache[i],start=splt.n
+2,stop=nchar(cache[i]))
a<-c(a,a.c)
cache.2<-c(cache.2,splt.s)
},
no = {cache.2<-c(cache.2,cache[i])
a<-c(a,"")}
)
}

# create the master “s” and combine
data to master:
s<-cbind(s.1,sf=cache.
2,a=a,stringsAsFactors=FALSE)
rm(i,splt.s,splt.n,x,a.c,cache,cache.
2,a) #tidy up

##################################
# (5) Deal with s.2 (sf+a)

cache<-s.2$sf
sfa<-paste(s.2$sf,s.2$a, sep="  ")
a<-s.2$a

# clean cache, sfa and a:
# this command searches for weird
spaces: grep(" ",cache)
cache<-gsub(" "," ",cache) #
standardizes a weird space character
while (sum(grep("  ",cache))>0) {
cache<-gsub("  "," ",cache)
} # reduces double spaces to single
spaces, just in case.
cache<-gsub(" $","",cache) # removes
all trailing spaces

sfa<-gsub(" "," ",sfa) # standardizes
a weird space character
while (sum(grep("  ",sfa))>0) {sfa<-
gsub("  "," ",sfa)}
sfa<-gsub(" $","",sfa)

a<-gsub(" "," ",a) # standardizes a
weird space character
while (sum(grep("  ",a))>0) {a<-gsub("
"," ",a)}
a<-gsub(" $","",a)

# this command tests for a space at
the start: grep("^ ",cache)

# combine to master “s”:
temp<-data.frame(sfa,sf=cache,a,yob=s.
2$yob,office=s.2$office,el.year=s.
2$el.year, stringsAsFactors=FALSE)
s<-rbind(s,temp)
rm(cache,sfa,a,temp)

##################################
######
# Deal with s.3 (safa)

# remove these strings (case
sensitive):
rem<-c("CSc\\.]", "CSc\\.", "CSc",
"DrSc\\.", "DrSc\\.", "Ing\\.", "doc\
\.", "MUDr\\.", "Prof\\.", "JUDr\\.",
"Doc\\.", "RNDr\\.", "RSDr\\.", "PhDr\
\.", "hDr\\.", "ing\\.", "Mgr\\.",
"PaedDr\\.", "Akad\\. malíř", "MVDr\
\.", "arch\\.", "Dr\\.", "dr\\.")

# create cache vectors:

cache<-s.3$safa
cache.2<-vector()
a.li<-
vector(mode="list",length=length(cache
))
names(a.li)<-cache #this is
unnecessary
```

```
for (j in 1:length(rem))
{
for (i in 1:length(cache))
{
ifelse(test = grep(rem[j],cache[i]),
yes={
cache.2<-gsub(rem[j],replacement =
"",cache[i],ignore.case = FALSE)
a.li[[i]]<-c(a.li[[i]],rem[j])
cache[i]<-cache.2
},
no=next
)
}
}
rm(i,j,cache.2)

#creates a vector of a's:
a<-vector()
for (i in 1:length(cache))
{a[i]<-paste(a.li[[i]],collapse=", ")}
a <- gsub("\\\\","",a)
a <- gsub("\\\\","",a)
rm(i,a.li,rem)

#remove commas, non-standard spaces
and double spaces:
cache<-gsub(","," ",cache)
cache<-gsub("  "," ",cache) #
standardizes the weird space character
while (sum(grep("  ",cache))>0) {
cache<-gsub("  "," ",cache)
}

#remove all trailing spaces:
cache<-gsub(" $","",cache)

#create a standard sfa:
sfa<-paste(cache,a,sep=" ");sfa<-
gsub(" $","",sfa)

#add to the master file "s":
temp<-data.frame(sfa,sf=cache,a,yob=s.
3$yob,office=s.3$office,el.year=s.
3$el.year, stringsAsFactors=FALSE)
s<-rbind(s,temp)
rm(temp,sfa,cache,a)
rm(s.1,s.2,s.3)

###################################
# (6) Deal with observed
irregularities

# move these strings from "sf" to
"a" (case sensitive):

rem <- c(" BA \\(Hons\\)", " doc$", "
Ing$")

for(i in 1:length(rem)){
s[grep(pattern = rem[i], s$sf),6] <-
paste0(s[grep(pattern = rem[i], s$sf),
6], rem[i], collapse = "")
s[grep(pattern = rem[i], s$sf),5] <-
gsub(pattern = rem[i], replacement =
"", x = s[grep(pattern = rem[i], s
$sf),5])
}
rm(rem, i)

# A substitution of common typos as
determined from Czech Republic
citizens surnames published by the
Ministry of Interior (Ministerstvo
vnitra 2013), plus one occurences of
"-" which is not contained in
Ministerstvo vnitra 2013 ("Bebarová-
Rujbrová")

gsub2 <- function(x, ...) {
from <- c("  ", "l´", "D´ ", "´ ",
"´", "`", "D' ", "ová-")
to <- c(" ", "ľ", "D'", "'", "'", "'",
"D'", "ová ")
for(i in 1:length(from))
x <- gsub(from[i], to[i], x, ...)
x
}

s$sf <- gsub2(x = s$sf, ignore.case =
TRUE)
rm(gsub2)

###################################
# (7) Examining multiple offices, a
new method

if(sum(duplicated(s$sf)) > 0)
print("There are multiple entries with
identical sf fields. These entries
will be reviewed in order to determine
unique politicians.")

x <- s
d <- duplicated(x$sf) | duplicated(x
$sf, fromLast = TRUE) # marks all
duplicate sf as TRUE duplicates;
unlike the plain duplicated() which
does not mark the first occurrence of
a duplicate as a duplicate, only the
second and so forth.
x <- cbind(x, duplicate = d)
rm(d)

x.unique <- x[x$duplicate == FALSE,] #
spins out uniques by unique sf string.
x <- x[x$duplicate == TRUE,]
x <- x[order(x$yob),]
```

```
x <- x[order(x$sf),]
x <- cbind(x,yobs = (x$yob-1),yobe =
(x$yob+1)) # extending yob to +/-1

id <- vector() # will contain unique
ids which identify unique politicians
g <- unique(x$sf) # defines unique
groups

for (i in 1:length(g)){

l <- x[x$sf == g[i],] # i-th group
if(length(id) == 0){id[1] <- 1} else
{id[length(id)+1] <- (id[length(id)]
+1)}
for (j in 2:nrow(l)){
if((x[x$sf == g[i],][j,8]) - (x[x$sf
== g[i],][j-1,9]) <= 2){id[length(id)
+ 1] <- id[length(id)]} else
{id[length(id) +1 ] <- (id[length(id)]
+1)}
}
}

paste0("Out of ", nrow(x), " entries
which share identical sf, there are ",
id[length(id)], " unique politicians
sharing sf strings while there are ",
length(g), " unique sf strings.")

x <- x[,-c(8,9)] # deleting the span
of years
x <- cbind(x,id = id)
id.unique <- (id[length(id)]+1):
(id[length(id)]+nrow(x.unique)) #
creating ids for x.unique
x.unique <- cbind(x.unique, id =
id.unique)
x <- rbind(x,x.unique)

####################################
# (8/7.b) Reports on unique
politicians and mandates, first
attempt unadjusted for surnames
unmatched in the population, i.e. only
informative

paste0("There are ", x[nrow(x),8], "
unique politicians who have held ",
nrow(x)," political mandates. This is
a somewhat conservative estimate which
counts as one those people who hold
identical first name and surname while
being born within two years of each
other.")

# determine the number of political
mandates held per one politician
m <- rep.int(x = 1, times = nrow(x))
grid <- data.frame(id = x$id,m = m)
grid <- aggregate(x = grid$m, by =
list(grid$id), FUN = sum) # id by
mandate

paste0("On average, one politician has
held ", round(mean(grid$x), 2), "
mandates. There are ",
round(100*nrow(grid[grid$x > 1,])/
nrow(grid), 2), "% of politicians who
have held more than one mandate. The
", nrow(grid[grid$x > 1,]), "
politicians who have held more than
one mandate, held in total ",
sum(grid[grid$x > 1,2]),"  of all
available mandates, that is ",
round(100*sum(grid[grid$x > 1,2])/
sum(grid$x),1), "% of all available
mandates were held by ",
round(100*nrow(grid[grid$x > 1,])/
nrow(grid),1), "% of politicians.")

rm(i,j,g,l,id.unique,id,m,x.unique,gri
d)

s <- x
rm(x)

####################################
# (9) Extracting surnames and first
names to determine frequencies
# Prime data before  extraction

# Check whether there is a need for an
underscore substitution as performed
in on surname data by Ministerstvo
vnitra (2013)

hits <- function(x) {
from <- c("ABU AL "," AL ","ABA
S","ABD EL ","ABD ","ABI ","ABOU EL
","ABOU ","ABU ","AIT EL ","BEN ","DE
LA "," DA "," DI ","DE LOS "," DOS ","
DEL ","VAN DE ","VAN DER ","VAN DEN
"," VON "," UND "," DE ", " VAN ", "
EL ", "MAC ", " Y ", " E ", " - ","
DAL B", " LA ", " LE ", " DIT ", " MÁC
AN ", " MC ", " SAN ", " OP HET ", "
DO ESPIRITO SANTO", " DES ") # This is
an empirical vector, determined as of
October 2013.
hits <- vector()
for(i in 1:length(from)){
hits <- c(hits, grep(pattern =
from[i], x = x, ignore.case = TRUE)) #
anyplace within
}
from<-c(from, c("VON ", "VAN ", "DELA
", "DEL ", "DOS ", "DI ", "DA ", "AIT
```

```
", "EL ", "AL ", "DE ", "DAL B", "LA
", "LE ", "MÁC AN ", "MC ", "OP HET
","DO ESPIRITO SANTO", "O ", "O' ",
"LO ", "LI ", "DES ", "DO MONTE", "Ó
", "ZA "))
for(j in (i+1):length(from)){
hits<-c(hits, grep(pattern =
paste0("^",from[j]), x = x,
ignore.case = TRUE)) # from the start
only
}

hits <- hits[!is.na(x[hits])]
if(length(hits) < 1) "There is no need
to substitute spaces for underscores."
else paste("Warning. Please substitute
some spaces for underscores before
proceeding. These strings require such
a substitution: >>",
paste(unique(x[hits]), collapse = "<<,
>>"), "<<.", sep = "")
}

hits(s$sf)
rm(hits)

# Single out sf entries for split to
first names and surnames, and for
frequency analyses.

x <- s
x <- x[!duplicated(x$id),5] # A vector
of unique politicians by unique id
(not by unique sf, mind this). Here,
the set is losing all information,
especially those about particular
mandates by narrowing down to unique
ids without retaining information from
"office" column. All analyses of
political offices need to be performed
on the 's' object.

# Check the number of spaces:
if(length(x[(sapply(strsplit(x, "
"),length)-1) > 1]) > 0) {
print("Please note there is at least
one sf field which contains more than
one surname or first name. This is the
list:")
x[(sapply(strsplit(x, " "), length)-1)
> 1]
}

# A custom split of multiple-surname
sf fields follows. It is based on a
by-hand review of
x[(sapply(strsplit(x, " "),length)-1)
> 1] performed on 23 Jan 2015.

x.a <- x[(sapply(strsplit(x, " "),
length)-1) == 1] # s+f assumed
x.b <- x[(sapply(strsplit(x, " "),
length)-1) > 1] # ss+f or s+ff assumed

rem.1 <- c("Petra$", "Jana$", "Šárka
$", "Ilona$", "Milan$", "Lenka$",
"Mahmoud$", "Zuzana$", "Monika$",
"Zuzka$") # sf which contain these
while containing more than one spaces
are assumed to contain one first name
and multiple surnames names.
rem.2 <- "Jaroslav Maxmilián$" # sf
which contains this is assumed to
contain two first names and single
surname.

x.s <- vector() # will output surnames
x.f <- vector() # will output first
names

# solve for rem.2 (the largest number
of first names), first
for(i in 1:length(rem.2)){
cache <- x.b[grep(rem.2[i], x = x.b)]
cache.2 <- strsplit(gsub(pattern =
rem.2[i], replacement = "", x = cache,
ignore.case = TRUE), " ")
x.s <- c(x.s, unlist(cache.2))
cache.2 <- length(cache.2)
to.add <- rep.int(x = gsub("\\$", "",
rem.2[i]), times = cache.2)
to.add <- unlist(strsplit(to.add, "
"))
x.f <- c(x.f, to.add)
x.b <- x.b[-grep(rem.2[i], x = x.b)] #
There is no need to change order to
descending
}

# solve for rem.1, second
for(i in 1:length(rem.1)){
cache <- x.b[grep(rem.1[i], x = x.b)]
cache.2 <- strsplit(gsub(pattern =
rem.1[i], replacement = "", x = cache,
ignore.case = TRUE), " ")
x.s <- c(x.s, unlist(cache.2))
cache.2 <- length(cache.2) # formerly
length(grep(pattern = rem.1[i], x =
cache, ignore.case = TRUE))
to.add <- rep.int(x = gsub("\\$", "",
rem.1[i]), times = cache.2)
to.add <- unlist(strsplit(to.add, "
")) # redundand for one first name,
but general
x.f <- c(x.f, to.add)
x.b <- x.b[-grep(rem.1[i], x = x.b)] #
There is no need to change order to
descending
```

```
}

rm(cache, cache.2, to.add, i, rem.1,
rem.2)

if(length(x.b) > 0){paste0("Warning,
there are several items unaccounted
for. Review rem.1 and rem.2 before
proceeding. This is the list of items
which are unaccounted for in x.s or
x.f:", x.b)}else{paste0("All is fine.
All of x.b has been processed and it
remains empty and is deleted, now.");
rm(x.b)}

# extracting x.a, assuming each
entry's last item is a first name
x.a <- strsplit(x = x.a, split = " ")
x.s <- c(x.s, sapply(x.a, function(s)
s[1])) # surnames
x.f <- c(x.f, sapply(x.a, function(f)
f[2])) # first names

rm(x.a)

s.f <- x.f # observed politicians'
first names
s.s <- x.s # observed politicians'
surnames

rm(x.s, x.f, x)

###################################
# (10) Check observed politicians
against population frequencies, first
attempt

polit.fos <-
data.frame(table(toupper(s.s))) #
frequency of surnames
polit.fof <-
data.frame(table(toupper(s.f))) #
frequency of first names
colnames(polit.fos) <- c("s",
"freq.o")
colnames(polit.fof) <- c("f",
"freq.o")

# Check whether all surnames and names
are contained in population datasets:
x <- merge(x = polit.fos, y = popul,
all.x = TRUE)
x[is.na(x$freq),] # <0 rows> (or 0-
length row.names) indicates that all
observed surnames are present in the
population data
if(nrow(x[is.na(x$freq),])>0)
paste("One or more surnames do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed surnames are
contained in the population dataset.")
x <- merge(x = polit.fof, y = firstn,
all.x = TRUE)
x[is.na(x$freq),] # (or 0-length
row.names) indicates that all observed
surnames are present in the population
data
if(nrow(x[is.na(x$freq),])>0)
paste("One or more first names do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed first names are
contained in the population dataset.")
rm(x)

###################################
# (11) Export and adjust the surname
frequency table by leaving out entries
which do not match the population.
Provide new reports on all accounts to
obtain exact figures for the
dissertation.
# Surnames which do not match the
population data are
c("FILIŠTEJN","SILHÁN").
# All first names match the population
data,  the first names of
c("FILIŠTEJN","SILHÁN") will be left
out of the dataset. The entries
containing c("FILIŠTEJN","SILHÁN") are
understood as missing, in all
variables.

x <- merge(x = polit.fos, y = popul,
all.x = TRUE)
drop <- as.character(x[is.na(x$freq),
1])

x <- strsplit(s$sf, " ") # redefines
'x'
x <- toupper(sapply(x, function(s)
s[1])) # redefines 'x'; This extracts
the first word of 'sf' field. This
assumes it is the only surname
contained in the sf entry; note that
this works for the custom
c("FILIŠTEJN","SILHÁN"), but it will
not work for missing surnames which
are placed at any s[2] position or
surnames like "El Al" which contain a
space. But, this is better than using
grep() as it may match a NA surname to
first name.
```

```
rem <- rep(FALSE,times = length(x)) #
TRUE will signify a match with 'drop'
for(i in 1:length(drop))
rem <- rem | x == drop[i] #
accummulates TRUE values via the use
of AND, i.e. |
rm(i)

drop.f <- sapply(strsplit(s[rem ==
TRUE,5], " "), function(f) f[2]) #
Assumes the second word s[2] in 'sf'
is first name of the mismatched
surname's entry.

paste0("The following ", sum(rem) ,"
mandates were identified to be left
out prior to any analysis:"); s[rem ==
TRUE,]; paste0("These entries will be
discarted, now. Now, a new master from
's' is formed to be used for further
analyses, the 's.2'.")

# Now, creating s.2, updating s.s and
s.f:
s.2 <- s[rem != TRUE,] # create an
updated master 's.2' from 's'

for(i in 1:length(drop)) # remove from
s.s as many times as contained in drop
s.s <- s.s[-
which(toupper(s.s)==drop[i])[1]] # a
match removed once, i.e. [1]
rm(i, drop)

for(i in 1:length(drop.f)) # remove
from s.f as many times as contained in
drop.f
s.f <- s.f[-
which(toupper(s.f)==toupper(drop.f[i])
)[1]] # a match removed once, i.e. [1]
rm(i, drop.f)

rm(rem, x)

# Now, creating output tables without
unmatched surnames, merge with
population frequencies:
polit.fos <- merge(x = polit.fos, y =
popul) # This excludes misfits, for
all add  all.x=TRUE
polit.fof <- merge(x = polit.fof, y =
firstn) # This excludes misfits, for
all add  all.x=TRUE

##################################
# (12) Reports, authoritative

paste0("Unmatched surnames of
politicians are dropped, their first
names and mandates are dropped. In the
dataset, there are ", length(unique(s.
2$id)), " unique politicians who have
held ", nrow(s.2), " mandates
(adjusted for dropped mandates), ",
length(s.s), " of total surnames
(adjusted for dropped surnames), ",
length(unique(s.s)), " of unique
surnames (adjusted for dropped
surnames), ", length(s.f), " of total
first names, and of ",
length(unique(s.f)), " unique first
names.")

# Determine the number of political
mandates held per one politician
x <- s.2 # note that this is s.2
(entries of unmatched surnames are
dropped)
m <- rep.int(x = 1, times = nrow(x))
grid <- data.frame(id = x$id,m = m)
grid <- aggregate(x = grid$m, by =
list(grid$id), FUN = sum) # id by
mandate
colnames(grid) <- c("id", "mandates")

paste0("On average, one politician has
held ", round(mean(grid$mandates), 2),
" mandates. There are ",
round(100*nrow(grid[grid$mandates >
1,])/nrow(grid), 2), "% of politicians
who have held more than one mandate.
The ", nrow(grid[grid$mandates > 1,]),
" politicians who have held more than
one mandate, held in total ",
sum(grid[grid$mandates > 1,2]),"  of
all available mandates, that is ",
round(100*sum(grid[grid$mandates >
1,2])/sum(grid$mandates),1), "% of all
available mandates were held by ",
round(100*nrow(grid[grid$mandates >
1,])/nrow(grid),1), "% of politicians.
The total of all mandates held by all
unique politicians is ", sum(grid[,
2]), ". There are ", nrow(grid), "
unique politicians in the dataset.
There are, ", sum(grid$mandates == 1),
" politicians who have held one
mandate.")

paste0("There are ", nrow(grid), "
politicians in the dataset. This is a
somewhat conservative estimate which
counts as one those people who hold
identical first name and surname while
being born within two years of each
other.")
```

```
paste0("Although there are ",
length(unique(s$id)), " unique
politicians, two politicians' surnames
('Filištejn' and 'Silhán') do not
match the Czech Ministry of Interior
2013 population data. Therefore, the
elected politician dataset is reduced
to ", length(unique(s.2$id)), " unique
politicians, each of which matches a
registered population surname. These
unique politicians have held ",
sum(grid$mandates), " mandates. There
are now ", nrow(polit.fos), " unique
surnames and ", nrow(polit.fof), "
first names shared among ",
nrow(grid)," unique politicians, in
the dataset.")

# R script, charts
mytable<-table(s.2$office)
pct <- round(mytable/sum(mytable)*100)
lbls<-
paste(names(mytable),"\n",mytable,sep=
"")
lbls <- paste(lbls, " (", pct, "%)",
sep="") # add percents to labels
pie(mytable, labels=lbls, main="Chart
1: Czech Republic Political Mandates
by Office\n in 1994 to 2012")
rm(lbls,pct,mytable)

paste0("This is the breakdown of
mandates by political office:");
data.frame(table(s.2$office))

paste0("Most surnames in the dataset
are of low frequency as six in seven
surnames register a frequency of one.
The share of frequencies of 1,
quantiles, mean, maximum frequency and
standard deviation are:");
sum(polit.fos$freq.o == 1)/
nrow(polit.fos); quantile(polit.fos
$freq.o); mean(polit.fos$freq.o);
max(polit.fos$freq.o); sd(polit.fos
$freq.o)

paste0("There are ", sum(polit.fos
$freq.o > 1), " surnames with a
frequency greater than one. The most
frequent surname in the dataset is '",
as.character(polit.fos[polit.fos
$freq.o == max(polit.fos$freq.o),1]),
"' which is a male surname.")

paste0("There are ",
sum(polit.fos[polit.fos$freq.o >
1,2]), " politicians who share ",
length(polit.fos[polit.fos$freq.o >
1,2]), " surnames with a frequency
greater than one, which means there
are ", sum(polit.fos[polit.fos$freq.o
> 1,2]), " politicians who share
surnames. That is, ",
round(100*sum(polit.fos[polit.fos
$freq.o > 1,2])/sum(polit.fos$freq.o),
1), "% of all politicians share ",
round(100*length(polit.fos[polit.fos
$freq.o > 1,2])/nrow(polit.fos),1), "%
of all unique surnames.")

paste0("On average, when politicians
share surnames there are ",
sum(polit.fos[polit.fos$freq.o >
1,2])/length(polit.fos[polit.fos
$freq.o > 1,2]), " politicians for
each of the ",
length(polit.fos[polit.fos$freq.o >
1,2]), " shared surnames.")

paste0("The beginning and end of the
dataset:"); rbind(head(polit.fos[,
1:3]), cbind(s = "...", freq.o =
"...", freq = "..."), tail(polit.fos[,
1:3]))

rm(x, grid,m)
```

R Protocol: Complementary Datasets

```
###################################
# R Protocol: Complementary Datasets:
Judges, Notaries, Attorneys, Foreign
Office Civil Servants
###################################
# Judges: import and prime source
data, names of judges registered with
the Czech Ministry of Justice and
obtained on 21 March 2014

judge.s <- read.csv(file =
"judge.roster.csv", stringsAsFactors =
FALSE)[,2]

x <- judge.s # load the workhorse

# check spaces at the start:
grep(pattern = "^ ", x = x)
grep(pattern = " $", x = x)

# custom changes:
from <- c("DEL FAVERO Marek
JUDr.Mgr.","GRUNTOVÁ-HÄRTINGOVÁ Dita
Mgr.","JANITOROVÁ-SIXTOVÁ Kateřina
Mgr.","MENŠÍKOVÁ-Franzová Markéta
JUDr.", "EL HADDIDY Zuzana JUDr.")
```

```
to <- c("DEL_FAVERO Marek
JUDr.Mgr.","GRUNTOVÁ HÄRTINGOVÁ Dita
Mgr.","JANITOROVÁ SIXTOVÁ Kateřina
Mgr.", "MENŠÍKOVÁ FRANZOVÁ Markéta
JUDr.", "EL_HADDIDY Zuzana JUDr.")

for(i in 1:length(from)) x[x ==
from[i]] <- to[i]
rm(from,to,i)

del<-c(",", "-") # removes all strings
from this char. to right
for(n in 1:length(del))
{
for(i in 1:length(x))
if(grepl(pattern = del[n], x = x[i]))
x[i] <- strtrim(x = x[i], width =
(regexpr(pattern = del[n], text =
x[i]) - 1))
}
rm(i, n, del)

del <- c("JUDr\\.\\.", "JUDr\\.",
"JUDr", "JUDR:", "Mgr\\.", "et Mgr",
"Bc\\.", "Ing\\.", "ing\\.", "Ph.D\
\.", "RNDr\\.", "LL\\.M\\.", "CSc\\.",
"MUDr\\.", "Doc\\.", "PhDr\\.", "Dr\
\.", "PhD\\.", "Prof\\.", "DiS\\.",
"jr\\.", "S\\.J\\.D", "LLM\\.", "\\
(doč.zprošť.", "Bc")
for(i in 1:length(del)) x <-
gsub(pattern = del[i], replacement =
"", x = x, ignore.case = FALSE)
rm(i, del)
# all non-name strings with period
have been deleted, check by executing
x[grep(pattern = "\\.", x = x)]
# delete spaces, at the end:
while(length(grep(pattern = " $", x =
x))>0) x <- gsub(pattern = " $",
replacement = "", x = x)

# split to identify surnames and first
names like in freq in population or
freq.o in politicians:
x.l <- strsplit(x = x, split = " ")
index <- sapply(x.l, length)
x.s <- sapply(x.l[index == 2], head, n
= 1) # the first word in 2-mem
x.f <- sapply(x.l[index == 2], tail, n
= 1) # the last word in 2-mem
# This is a custom solution for judges
for all entries of three or more
elements. This needs to be customised
for new data, review items by
executing x.l[index > 2].
# 4-member item:
x.s <- c(x.s, x.l[index == 4][[1]]
[1:3])
x.f <- c(x.f, x.l[index == 4][[1]][4])
# 3-member items:
index.2 <- c(1:2, 4:17, 19:22, 24:29,
31:40) # observed two surnames plus
one first name
index.3 <- c(3, 18, 23, 30)  #
observed one surname plus two first
names
x.s <- c(x.s, mapply(function(x)
x[1:3], x.l[index == 3][index.2])[1,])
x.s <- c(x.s, mapply(function(x)
x[1:3], x.l[index == 3][index.2])[2,])
x.f <- c(x.f, mapply(function(x)
x[1:3], x.l[index == 3][index.2])[3,])
x.s <- c(x.s, mapply(function(x)
x[1:3], x.l[index == 3][index.3])[1,])
x.f <- c(x.f, mapply(function(x)
x[1:3], x.l[index == 3][index.3])[2,])
x.f <- c(x.f, mapply(function(x)
x[1:3], x.l[index == 3][index.3])[3,])
rm(index, index.2, index.3)

if(length(x.s)+length(x.f) ==
length(unlist(x.l))) print("The number
of items in both x.s and x.l is equal
to x.l which is expected.") else ("The
number of items in both x.s and x.l is
not equal to x.l which is incorrect
and requires a review.")

# revert custom changes:
from <- c("DEL_FAVERO", "EL_HADDIDY")
to <- c("DEL FAVERO", "EL HADDIDY")
for(i in 1:length(from)) x.s[x.s ==
from[i]] <- to[i]
rm(from,to,i)

x.s <- toupper(x.s)
x.f <- toupper(x.f)

# unload the workhorses:
judge.fos <- data.frame(table(x.s)) #
frequency of surnames
judge.fof <- data.frame(table(x.f)) #
freqnency of first names
colnames(judge.fos) <- c("s",
"freq.o")
colnames(judge.fof) <- c("f","freq.o")
rm(x, x.l, x.f, x.s)

# Check whether all surnames and names
are contained in  population datasets:
x <- merge(x = judge.fos, y = popul,
all.x = TRUE)
x[is.na(x$freq),] # <0 rows> (or 0-
length row.names) indicates that all
observed surnames are present in the
population data
```

```
if(nrow(x[is.na(x$freq),])>0)
paste("One surname or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed surnames are
contained in the population dataset.")

# a function to estimate the actual
number of individuals whose surnames
are contained in the dataset:
x.fun <- function(x, judge.s) {
missing.s <- as.character(x[is.na(x
$freq),][,1])
x.2 <- data.frame(judge.s) # loading
the second workhorse with information
on imported people.
missing.si <- rep.int(x = 1, times =
nrow(x.2)) # index file to a table,
thus nrow and not length

for(i in 1:length(missing.s))
missing.si[grep(pattern =
missing.s[i], x = x.2[,1], ignore.case
= TRUE)] <- 0 # 0 stands for unmatched
in population

print(
paste0("Some surnames do not match the
population data, therefore the total
number of judges could have been
reduced by ", length(judge.s)-
sum(missing.si), ". In judges' surname
dataset, the total number of judges is
now reduced by 1 to ",
length(judge.s)-1, " as one  person
with a missing surname features
another surname which does match the
population data.")) # in a rare case
one surname is not retained while
another is, from one person; but this
is disregarded, in this calculation.
}

if(nrow(x[is.na(x$freq),])>0) x.fun(x
= x, judge.s = judge.s)
rm(x, x.fun)

x <- merge(x = judge.fof, y = firstn,
all.x = TRUE)
x[is.na(x$freq),] # (or 0-length
row.names) indicates that all observed
surnames are present in the population
data
if(nrow(x[is.na(x$freq),])>0)
paste("One first name or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed first names are
contained in the population dataset.")

# a function to estimate the actual
number of individuals whose first
names are contained in the dataset:
x.fun <- function(x, judge.s) {
missing.s <- as.character(x[is.na(x
$freq),][,1])
x.2 <- data.frame(judge.s) # loading
the second workhorse with information
on imported people.
missing.si <- rep.int(x = 1, times =
nrow(x.2)) # index file to a table,
thus nrow and not length

for(i in 1:length(missing.s))
missing.si[grep(pattern =
missing.s[i], x = x.2[,1], ignore.case
= TRUE)] <- 0 # 0 stands for unmatched
in population

print(
paste0("Some first names do not match
the population data, therefore the
total number of judges was reduced by
", length(judge.s)-sum(missing.si), ".
In judges' surname dataset, the total
number of judges is now reduced to ",
sum(missing.si), ".")) # in a rare
case one surname is not retained while
another is, from one person; but this
is disregarded, in this calculation.
}

if(nrow(x[is.na(x$freq),])>0) x.fun(x
= x, judge.s = judge.s)
rm(x, x.fun)

# create report tables without
unmatched surnames and unmatched first
names, merge with population
frequencies:
judge.fos <- merge(x = judge.fos, y =
popul) # This excludes misfits, for
all add  all.x=TRUE
judge.fof <- merge(x = judge.fof, y =
firstn) # This excludes misfits, for
all add  all.x=TRUE

# Reports:
x <- judge.fos
paste0("There were ", length(judge.s),
" judges imported. Very few surnames
did not fit the 2013 population data,
due to typos. There are ", nrow(x), "
unique surnames among ", sum(x
$freq.o), " surnames of judges as some
judges feature more than one surname.
```

```
That is ", round(100*(sum(x$freq.o)-
nrow(x))/sum(x$freq.o), 3), "% of
surnames are shared among at least two
judges.")
x <- judge.fof
paste0("There were ", length(judge.s),
" judges imported. Very few first
names did not fit the 2013 population
data, due to typos. There are ",
nrow(x), " unique first names and some
judges feature more than one first
name. That is ", round(100*(sum(x
$freq.o)-nrow(x))/sum(x$freq.o), 3),
"% of first names are shared among at
least two judges.")
rm(x)

###################################
# Notaries: Processing Notaries,
registered with the Czech Notarial
Chamber and obtained in March 2014

notar.sf <- read.csv(file =
"notar.roster.csv", head = TRUE, as.is
= TRUE)[,2]

x <- notar.sf

# check spaces at the start:
grep(pattern = "^ ", x = x)
grep(pattern = " $", x = x)

# custom changes:
from <- c("Ing. Klička Ondřej","Ing.
Koupšet Robert","Ing. Sáblík
Michael","Ing. Svoboda Jan", "Novotná-
Kuzmová Libuše", "Jankovičová  Hana")
to <- c("Klička Ondřej","Koupšet
Robert","Sáblík Michael", "Svoboda
Jan", "Novotná Kuzmová Libuše",
"Jankovičová Hana")
for(i in 1:length(from)) x[x ==
from[i]] <- to[i]
rm(from,to,i)

# split to identify first surnames and
surnames, like in freq in population
or freq.o in politicians:
x.l <- strsplit(x = x, split = " ")
index <- sapply(x.l, length)
x.s <- sapply(x.l[index == 2], head, n
= 1) # the first word in 2-member
items
x.f <- sapply(x.l[index == 2], tail, n
= 1) # the last word in 2-member items

# This is a custom solution for
notaries for all entries of three or
more elements. This needs to be
customised for new data, review items
by executing x.l[index > 2].
# The only 4-member item:
x.s <- c(x.s, x.l[index == 4][[1]]
[1:2])
x.f <- c(x.f, x.l[index == 4][[1]]
[3:4])
# 3-member items:
index.2 <- c(1:3) # observed two
surnames plus one first name; no
observed one surname plus two first
names items, for the full use see
judges
x.s <- c(x.s, mapply(function(x)
x[1:3], x.l[index == 3][index.2])[1,])
x.s <- c(x.s, mapply(function(x)
x[1:3], x.l[index == 3][index.2])[2,])
x.f <- c(x.f, mapply(function(x)
x[1:3], x.l[index == 3][index.2])[3,])
rm(index, index.2)

if(length(x.s)+length(x.f) ==
length(unlist(x.l))) print("The number
of items in both x.s and x.l is equal
to x.l which is expected.") else ("The
number of items in both x.s and x.l is
not equal to x.l which is incorrect
and requires a review.")

x.s <- toupper(x.s)
x.f <- toupper(x.f)

# unload the workhorses:
notar.fos <- data.frame(table(x.s)) #
frequency of surnames
notar.fof <- data.frame(table(x.f)) #
frequency of first names
colnames(notar.fos) <- c("s",
"freq.o")
colnames(notar.fof) <- c("f",
"freq.o")
rm(x, x.s, x.f, x.l)

# Check whether all surnames and names
are contained in population datasets:
x <- merge(x = notar.fos, y = popul,
all.x = TRUE)
x[is.na(x$freq),] # <0 rows> (or 0-
length row.names) indicates that all
observed surnames are present in the
population data
if(nrow(x[is.na(x$freq),])>0)
paste("One surname or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed surnames are
contained in the population dataset.")
```

```
x <- merge(x = notar.fof, y = firstn,
all.x = TRUE)
x[is.na(x$freq),] # (or 0-length
row.names) indicates that all observed
surnames are present in the population
data
if(nrow(x[is.na(x$freq),])>0)
paste("One first name or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed first names are
contained in the population dataset.")
rm(x)

# create report tables without
unmatched surnames and unmatched first
names, merge with population
frequencies:
notar.fos <- merge(x = notar.fos, y =
popul) # This excludes misfits, for
all add  all.x=TRUE
notar.fof <- merge(x = notar.fof, y =
firstn) # This excludes misfits, for
all add  all.x=TRUE

# Reports:
x <- notar.fos
paste0("There were ",
length(notar.sf), " notaries imported.
All surnames fit the 2013 population
data. There are ", nrow(x), " unique
surnames among ", sum(x$freq.o), "
surnames of notaries as some notaries
feature more than one surname. There
are ", round(100*(sum(x$freq.o)-
nrow(x))/sum(x$freq.o), 3), "% of
surnames which are shared among at
least two notaries.")

x <- notar.fof
paste0("There were ", nrow(notar.sf),
" notaries imported. All first names
fit the 2013 population data. There
are ", nrow(x), " unique first names
as some notaries feature more than one
first name. That is ",
round(100*(sum(x$freq.o)-nrow(x))/
sum(x$freq.o), 3), "% of first names
are shared among at least two
notaries.")
rm(x)

###################################
# Attorneys: Import and prime source
data, members registered with the
Czech Bar Association and obtained in
March 2014:
attor.s <- read.csv(file =
"attorney.roster.csv",
stringsAsFactors = FALSE)
attor.s <- attor.s[attor.s$Stav !=
"vyškrtnut",c(1, 3)]
colnames(attor.s)<-c("source", "type")

x <- attor.s # load the workhorse

# check spaces at the start:
grep(pattern = "^ ", x = x[,1])
grep(pattern = " $", x = x[,1])

# custom changes:
from <- c("Abd El Kaderová Jana,
Mgr.","ABU ASSAD MARUAN, Mgr.", "Al
Khaled Ivana, JUDr.", "Bartálová,
Ph.D. Jana, JUDr.", "Bey Andriy
Zinovijovyč", "Fürst, LL.M. Antonín,
Mgr.", "Mc Dowell Hilary", "Šperka,
LL.M. Miroslav, Ing. Mgr.","SOUZA DE
ARAUJO DENISA, Mgr.", "van der Weerden
Anna, JUDr.", "Fernandez Garcia de los
Rios Ricardo", "KUCEROVA DE BERNARDI
DI VALSERRA BLANKA", "Smith
Christopher H. D.", "Le Duc Duy, Mgr.
Ing.", "Braubach Robert  P.", "Finney
Willard R.", "Lazar Evan Z.", "McGehee
Jeffrey A.", "Vosicky Joseph F.,
Jr.", "Schneider Birgit A.M.,",
"Lanzac Pauline de")
to <- c("Abd_El_Kaderová Jana,
Mgr.","ABU_ASSAD MARUAN, Mgr.",
"Al_Khaled Ivana, JUDr.", "Bartálová
Jana, JUDr. Ph.D.", "Bey Zinovijovyč
Andriy", "Fürst Antonín, Mgr. LL.M.",
"McDowell Hilary", "Šperka Miroslav,
Ing. Mgr. LL.M.","SOUZA_DE_ARAUJO
DENISA, Mgr.", "van_der_Weerden Anna,
JUDr.", "Fernandez Garcia_de_los_Rios
Ricardo", "KUCEROVA DE_BERNARDI
DI_VALSERRA BLANKA", "Smith
Christopher", "Le_Duc Duy, Mgr. Ing.",
"Braubach Robert", "Finney Willard",
"Lazar Evan", "McGehee Jeffrey",
"Vosicky Joseph,  Jr.", "Schneider
Birgit", "de_Lanzac Pauline")

for(i in 1:length(from)) x[x ==
from[i]] <- to[i]
rm(from,to,i)

x[,1] <- gsub("-", " ", x = x[,1]) #
removing dashes from surnames, names
and titles, check with x[grep("-", x =
x[,1]),]
del <- c(",") # the following script
removes all strings from this char. to
```

```
right; the full implementation thereof
is seen in judges
cache <- x; x <- x[,1] # stowaway
for(n in 1:length(del))
{
for(i in 1:length(x))
if(grepl(pattern = del[n], x = x[i]))
x[i] <- strtrim(x = x[i], width =
(regexpr(pattern = del[n], text =
x[i]) - 1))
}
rm(i, n, del)

# reduce spaces:
while (length(x[grep("  ", x = x)]) >
0) x <- gsub("  ", " ", x = x)

x <- cbind(processed = x, type =
cache[,2])
rm(cache)

# This is the compound '.a' process,
also continued on attorneys and junior
attorneys alone, later on as '.b' and
'.c' objects.
# a. compound senior and junior
attorneys:

x.split <- x # this workhorse retains
information about type
x <- x[,1] # here, the workhorse loses
information about each holder's group;
this is the compound solution

# split to identify surnames and first
names like in freq in population or
freq.o in politicians:
x.l <- strsplit(x = x, split = " ")
index <- sapply(x.l, length)
x.s <- sapply(x.l[index == 2], head, n
= 1) # the first word in 2-mem
x.f <- sapply(x.l[index == 2], tail, n
= 1) # the last word in 2-mem
# This is a custom solution for
attorneys for all entries of three or
more elements. This needs to be
customised for new data, review items
by executing x.l[index > 2].
# 5-member item
x.s <- c(x.s, x.l[index == 5][[1]][1])
x.f <- c(x.f, x.l[index == 5][[1]]
[2:5])
# 4-member items:
index.2 <- c(2, 3, 6, 7, 10) #
observed one surname, three first
names by x.l[index == 4]
index.3 <- c(1, 5, 8, 9) # observed
two surnames, two first names by
x.l[index == 4]
index.4 <- c(4) # observed three
surname, one first name by x.l[index
== 4]
x.s <- c(x.s, mapply(function(x) x[1],
x.l[index == 4][index.2]))
x.f <- c(x.f, c(mapply(function(x)
x[2:4], x.l[index == 4][index.2])))
x.s <- c(x.s, c(mapply(function(x)
x[1:2], x.l[index == 4][index.3])))
x.f <- c(x.f, c(mapply(function(x)
x[3:4], x.l[index == 4][index.3])))
x.s <- c(x.s, c(mapply(function(x)
x[1:3], x.l[index == 4][index.4])))
x.f <- c(x.f, mapply(function(x) x[4],
x.l[index == 4][index.4]))
# 3-member items:
index.5 <- c(1, 2, 1, 2, 2, 2, 2, 2,
1, 2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 2, 1,
2, 2, 2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 2,
1, 2, 2, 2, 1, 2, 2, 1, 2, 1, 1, 2, 2,
2, 2, 2, 1, 1, 2, 1, 2, 2, 2, 2, 2, 2,
1, 2, 1, 2, 2, 2, 2, 2, 2, 2, 1, 1, 2,
2, 1, 2, 2, 2, 1, 1, 2, 2, 2, 1, 2, 1,
2, 2, 1, 2, 2, 1, 2, 1, 1, 1, 1, 2, 1,
2, 1, 1, 1, 2, 2, 2, 2, 1, 2, 2, 2, 2,
2, 2, 2, 2, 2, 2, 2, 1, 2, 2, 2, 2, 2,
1, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
2, 2, 1, 2, 2, 1, 2, 2, 2, 2, 2, 2, 2,
2, 2, 1, 1, 1, 2, 1, 1, 2, 2, 2, 1, 1,
2, 2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 2, 1,
2, 2, 2, 1, 2, 1, 2, 2, 2, 2, 2, 2, 2,
2, 2, 2, 2, 2, 2, 2, 2, 2, 1, 2, 1, 1,
1, 2, 1, 2, 2, 1, 1, 1, 2, 1, 2, 1, 2,
2, 2, 1, 2, 2, 2, 2, 2, 1, 2, 2, 2, 2,
2, 2, 2, 2, 2, 2, 1, 2, 2, 2, 2, 1, 2,
2, 2, 2, 1, 2, 2, 2, 1, 2, 1, 2, 2, 2,
2, 2, 2, 2, 1, 1, 1, 2, 2, 1, 2, 2, 2,
2, 2, 2, 2, 2, 1, 2, 2, 2, 2, 2, 1, 2,
1, 2, 2, 2, 1, 1, 2, 2, 2, 1, 1, 1, 1,
1, 1, 2, 1, 2, 2) # 1 stands for one
surname, 2 stands for two surnames as
ordered by x.l[index == 3]

x.s <- c(x.s, mapply(function(x) x[1],
x.l[index == 3][index.5 == 1]))
x.f <- c(x.f, c(mapply(function(x)
x[2:3], x.l[index == 3][index.5 ==
1])))
x.s <- c(x.s, c(mapply(function(x)
x[1:2], x.l[index == 3][index.5 ==
2])))
x.f <- c(x.f, mapply(function(x) x[3],
x.l[index == 3][index.5 == 2]))

rm(index, index.2, index.3, index.4,
index.5)

if(length(x.s)+length(x.f) ==
length(unlist(x.l))) print("The number
```

```
of items in both x.s and x.l is equal
to x.l which is expected.") else ("The
number of items in both x.s and x.l is
not equal to x.l which is incorrect
and requires a review.")

# revert custom changes:
x.s <- gsub("_", " ", x = x.s) #
delete underscore, for full
implementation see judges

x.s <- toupper(x.s)
x.f <- toupper(x.f)

# unload the workhorses:
attor.fos <- data.frame(table(x.s)) #
frequency of surnames
attor.fof <- data.frame(table(x.f)) #
freqnency of first names
colnames(attor.fos) <- c("s",
"freq.o")
colnames(attor.fof) <- c("f","freq.o")
rm(x, x.l, x.f, x.s)

# Check whether all surnames and names
are contained in population datasets:
x <- merge(x = attor.fos, y = popul,
all.x = TRUE)
x[is.na(x$freq),] # <0 rows> (or 0-
length row.names) indicates that all
observed surnames are present in the
population data
if(nrow(x[is.na(x$freq),])>0)
paste("One surname or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed surnames are
contained in the population dataset.")

# a function to estimate the actual
number of individuals whose surnames
are contained in the dataset:
x.fun <- function(x, attor.s) {
missing.s <- as.character(x[is.na(x
$freq),][,1])
x.2 <- attor.s # loading the second
workhorse with information on imported
people.
missing.si <- rep.int(x = 1, times =
nrow(x.2)) # index file to a table,
thus nrow and not length

for(i in 1:length(missing.s))
missing.si[grep(pattern =
missing.s[i], x = x.2[,1], ignore.case
= TRUE)] <- 0 # 0 stands for unmatched
in population

print(
paste0("Some surnames do not match the
population data, therefore the total
number of attorneys was reduced by ",
nrow(attor.s)-sum(missing.si), ". In
attorneys' surname dataset, the total
number of attorneys is now reduced to
", sum(missing.si), ". This is the
breakdown of senior and junior
attorneys' unique surnames which were
retained:")); summary(as.factor(x.
2[cbind(x.2[,2],missing.si)[,2] ==
"1",2])) # in a rare case one surname
is not retained while another is, from
one person; but this is disregarded,
in this calculation.
}

if(nrow(x[is.na(x$freq),])>0) x.fun(x
= x, attor.s = attor.s)
rm(x, x.fun)

x <- merge(x = attor.fof, y = firstn,
all.x = TRUE)
x[is.na(x$freq),] # (or 0-length
row.names) indicates that all observed
surnames are present in the population
data
if(nrow(x[is.na(x$freq),])>0)
paste("One first name or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed first names are
contained in the population dataset.")

# a function to estimate the actual
number of individuals whose first
names are contained in the dataset:
x.fun <- function(x, attor.s) {
missing.s <- as.character(x[is.na(x
$freq),][,1])
x.2 <- attor.s # loading the second
workhorse with information on imported
people.
missing.si <- rep.int(x = 1, times =
nrow(x.2)) # index file to a table,
thus nrow and not length

for(i in 1:length(missing.s))
missing.si[grep(pattern =
missing.s[i], x = x.2[,1], ignore.case
= TRUE)] <- 0 # 0 stands for unmatched
in population

print(
paste0("Some first names do not match
the population data, therefore the
total number of attorneys was reduced
```

```
by ", nrow(attor.s)-sum(missing.si),
". In attorneys' first name dataset,
the total number of attorneys is now
reduced to ", sum(missing.si), ". This
is the breakdown of senior and junior
attorneys's unique first names which
were retained:"));
summary(as.factor(x.2[cbind(x.2[,
2],missing.si)[,2] == "1",2])) # in a
rare case one surname is not retained
while another is, from one person; but
this is disregarded, in this
calculation.
}

if(nrow(x[is.na(x$freq),])>0) x.fun(x
= x, attor.s = attor.s)
rm(x, x.fun)

# create compound report tables
without unmatched surnames and
unmatched first names, merge with
population frequencies:
attor.fos <- merge(x = attor.fos, y =
popul) # This excludes misfits, for
all add all.x=TRUE
attor.fof <- merge(x = attor.fof, y =
firstn) # This excludes misfits, for
all add all.x=TRUE

# Reports:
x <- attor.fos
paste0("There were ", nrow(attor.s), "
judnior and senior attorneys imported.
Some surnames did not fit the 2013
population data. There are ", nrow(x),
" unique surnames among ", sum(x
$freq.o), " surnames of attorneys as
some attorneys feature more than one
surname. That is ", round(100*(sum(x
$freq.o)-nrow(x))/sum(x$freq.o), 3),
"% of surnames are shared among at
least two attorneys.")

x <- attor.fof
paste0("There were ", nrow(attor.s), "
junior and senior attorneys imported.
Some first names did not fit the 2013
population data, due to typos. There
are ", nrow(x), " unique first names
and some attorneys feature more than
one first name. That is ",
round(100*(sum(x$freq.o)-nrow(x))/
sum(x$freq.o), 3), "% of first names
are shared among at least two
attorneys.")

rm(x)

# Attorney subgroups, process
continued from split incurred earlier.
# b senior attorneys
x <- x.split[x.split[,2]=="advokát",1]
#offload part of workhorse

# split to identify surnames and first
names like in freq in population or
freq.o in politicians:
x.l <- strsplit(x = x, split = " ")
index <- sapply(x.l, length)
x.s <- sapply(x.l[index == 2], head, n
= 1) # the first word in 2-mem
x.f <- sapply(x.l[index == 2], tail, n
= 1) # the last word in 2-mem
# This is a custom solution for
attorneys for all entries of three or
more elements. This needs to be
customised for new data, review items
by executing x.l[index > 2].
# 5-member item
x.s <- c(x.s, x.l[index == 5][[1]][1])
x.f <- c(x.f, x.l[index == 5][[1]]
[2:5])
# 4-member items:
index.2 <- c(2, 3, 6, 7, 10) #
observed one surname, three first
names by x.l[index == 4]
index.3 <- c(1, 5, 8, 9) # observed
two surnames, two first names by
x.l[index == 4]
index.4 <- c(4) # observed three
surname, one first name by x.l[index
== 4]
x.s <- c(x.s, mapply(function(x) x[1],
x.l[index == 4][index.2]))
x.f <- c(x.f, c(mapply(function(x)
x[2:4], x.l[index == 4][index.2])))
x.s <- c(x.s, c(mapply(function(x)
x[1:2], x.l[index == 4][index.3])))
x.f <- c(x.f, c(mapply(function(x)
x[3:4], x.l[index == 4][index.3])))
x.s <- c(x.s, c(mapply(function(x)
x[1:3], x.l[index == 4][index.4])))
x.f <- c(x.f, mapply(function(x) x[4],
x.l[index == 4][index.4]))
# 3-member items:
index.5 <- c(2, 2, 1, 2, 2, 2, 1, 2,
2, 1, 2, 1, 1, 2, 2, 2, 2, 2, 1, 1, 2,
1, 2, 2, 2, 2, 2, 2, 1, 2, 1, 2, 2, 2,
2, 2, 2, 2, 1, 1, 2, 2, 1, 2, 2, 2, 1,
1, 2, 2, 2, 1, 2, 1, 2, 2, 1, 2, 2, 1,
2, 1, 1, 1, 1, 2, 1, 2, 1, 1, 1, 2, 2,
2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
2, 1, 2, 2, 2, 2, 2, 1, 1, 2, 2, 2, 2,
2, 2, 2, 2, 2, 2, 2, 2, 2, 1, 2, 2, 1,
2, 2, 2, 2, 2, 2, 2, 2, 2, 1, 1, 1, 2,
1, 1, 2, 2, 2, 1, 1, 1, 2, 2, 1, 2, 2,
2, 2, 2, 2, 2, 2, 1, 2, 2, 2, 1, 2, 1,
```

```
2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
2, 2, 2, 1, 2, 1, 1, 1, 2, 1, 2, 2, 1,
1, 1, 2, 1, 2, 1, 2, 2, 2, 1, 2, 2, 2,
2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 2,
1, 2, 2, 2, 2, 2, 2, 2, 2, 2, 1, 2, 2,
2, 1, 2, 1, 2, 2, 2, 2, 2, 2, 1, 1, 1,
1, 2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 2, 1,
2, 2, 2, 2, 2, 1, 2, 1, 2, 2, 1, 1, 1,
2, 2, 2, 1, 1, 1, 1, 1, 1, 2, 1, 2, 2)
# 1 stands for one surname, 2 stands
for two surnames as ordered by
x.l[index == 3]

x.s <- c(x.s, mapply(function(x) x[1],
x.l[index == 3][index.5 == 1]))
x.f <- c(x.f, c(mapply(function(x)
x[2:3], x.l[index == 3][index.5 ==
1])))
x.s <- c(x.s, c(mapply(function(x)
x[1:2], x.l[index == 3][index.5 ==
2])))
x.f <- c(x.f, mapply(function(x) x[3],
x.l[index == 3][index.5 == 2]))

rm(index, index.2, index.3, index.4,
index.5)

if(length(x.s)+length(x.f) ==
length(unlist(x.l))) print("The number
of items in both x.s and x.l is equal
to x.l which is expected.") else ("The
number of items in both x.s and x.l is
not equal to x.l which is incorrect
and requires a review.")

# revert custom changes:
x.s <- gsub("_", " ", x = x.s) #
delete underscore, for full
implementation see judges

x.s <- toupper(x.s)
x.f <- toupper(x.f)

# unload the workhorses:
attor.b.fos <- data.frame(table(x.s))
# frequency of surnames
attor.b.fof <- data.frame(table(x.f))
# freqnency of first names
colnames(attor.b.fos) <- c("s",
"freq.o")
colnames(attor.b.fof) <-
c("f","freq.o")
rm(x, x.l, x.f, x.s)

# Check whether all surnames and names
are contained in population datasets:
x <- merge(x = attor.b.fos, y = popul,
all.x = TRUE)
x[is.na(x$freq),] # <0 rows> (or 0-
length row.names) indicates that all
observed surnames are present in the
population data
if(nrow(x[is.na(x$freq),])>0)
paste("One surname or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed surnames are
contained in the population dataset.")

# a function to estimate the actual
number of individuals whose surnames
are contained in the dataset:
x.fun <- function(x, attor.s) {
missing.s <- as.character(x[is.na(x
$freq),][,1])
x.2 <- attor.s # loading the second
workhorse with information on imported
people.
missing.si <- rep.int(x = 1, times =
nrow(x.2)) # index file to a table,
thus nrow and not length

for(i in 1:length(missing.s))
missing.si[grep(pattern =
missing.s[i], x = x.2[,1], ignore.case
= TRUE)] <- 0 # 0 stands for unmatched
in population

print(
paste0("Some surnames do not match the
population data, therefore the total
number of senior attorneys is
estimated to have been reduced by ",
nrow(attor.s)-sum(missing.si), ". In
senior attorneys' surname dataset, the
total number of senior attorneys is
now reduced roughly to ",
sum(missing.si), ".")) # in a rare
case one surname is not retained while
another is, from one person; but this
is disregarded, in this calculation.
}

if(nrow(x[is.na(x$freq),])>0) x.fun(x
= x, attor.s = attor.s[attor.s[,2] ==
"advokát",])

rm(x, x.fun)

x <- merge(x = attor.b.fof, y =
firstn, all.x = TRUE)
x[is.na(x$freq),] # (or 0-length
row.names) indicates that all observed
surnames are present in the population
data
```

```
if(nrow(x[is.na(x$freq),])>0)
paste("One first name or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed first names are
contained in the population dataset.")

# a function to estimate the actual
number of individuals whose first
names are contained in the dataset:
x.fun <- function(x, attor.s) {
missing.s <- as.character(x[is.na(x
$freq),][,1])
x.2 <- attor.s # loading the second
workhorse with information on imported
people.
missing.si <- rep.int(x = 1, times =
nrow(x.2)) # index file to a table,
thus nrow and not length

for(i in 1:length(missing.s))
missing.si[as.integer(rownames(x.
2[grep(pattern = missing.s[i], x = x.
2[,1], ignore.case = TRUE),]))] <- 0 #
0 stands for unmatched in population

print(
paste0("Some first names do not match
the population data, therefore the
total number of senior attorneys is
estimated to have been reduced by ",
nrow(attor.s)-sum(missing.si), ". In
senior attorneys' first name dataset,
the total number of senior attorneys
is now reduced roughly to ",
sum(missing.si), ".")) # in a rare
case one surname is not retained while
another is, from one person; but this
is disregarded, in this calculation.
}

if(nrow(x[is.na(x$freq),])>0) x.fun(x
= x, attor.s = attor.s[attor.s[,2] ==
"advokát",])
rm(x, x.fun)

# create report tables without
unmatched surnames and unmatched first
names, merge with population
frequencies:
attor.b.fos <- merge(x = attor.b.fos,
y = popul) # This excludes misfits,
for all add all.x=TRUE
attor.b.fof <- merge(x = attor.b.fof,
y = firstn) # This excludes misfits,
for all add all.x=TRUE

# Reports:
x <- attor.b.fos
paste0("Some surnames did not fit the
2013 population data. There are ",
nrow(x), " unique surnames among ",
sum(x$freq.o), " surnames of senior
attorneys as some attorneys feature
more than one surname. That is ",
round(100*(sum(x$freq.o)-nrow(x))/
sum(x$freq.o), 3), "% of surnames are
shared among at least two senior
attorneys.")

x <- attor.b.fof
paste0("Some first names did not fit
the 2013 population data, due to
typos. There are ", nrow(x), " unique
first names and some senior attorneys
feature more than one first name. That
is ", round(100*(sum(x$freq.o)-
nrow(x))/sum(x$freq.o), 3), "% of
first names are shared among at least
two senior attorneys.")

rm(x)

# c junior attorneys
x <- x.split[x.split[,
2]=="koncipient",1] #offload the rest
of workhorse
rm(x.split) # bb to data split midway
above

# split to identify surnames and first
names like in freq in population or
freq.o in politicians:
x.l <- strsplit(x = x, split = " ")
index <- sapply(x.l, length)
x.s <- sapply(x.l[index == 2], head, n
= 1) # the first word in 2-mem
x.f <- sapply(x.l[index == 2], tail, n
= 1) # the last word in 2-mem
# This is a custom solution for
attorneys for all entries of three or
more elements. This needs to be
customised for new data, review items
by executing x.l[index > 2].

# 3-member items:
index.5 <- c(1, 2, 1, 2, 2, 2, 2, 2,
1, 2, 2, 1, 2, 2, 2, 2, 2, 2, 2, 2, 1,
2, 2, 1, 2, 1, 2, 2, 1, 2, 2, 2) # 1
stands for one surname, 2 stands for
two surnames as ordered by x.l[index
== 3]

x.s <- c(x.s, mapply(function(x) x[1],
x.l[index == 3][index.5 == 1]))
```

```
x.f <- c(x.f, c(mapply(function(x)
x[2:3], x.l[index == 3][index.5 ==
1])))
x.s <- c(x.s, c(mapply(function(x)
x[1:2], x.l[index == 3][index.5 ==
2])))
x.f <- c(x.f, mapply(function(x) x[3],
x.l[index == 3][index.5 == 2]))

rm(index, index.5)

if(length(x.s)+length(x.f) ==
length(unlist(x.l))) print("The number
of items in both x.s and x.l is equal
to x.l which is expected.") else ("The
number of items in both x.s and x.l is
not equal to x.l which is incorrect
and requires a review.")

# revert custom changes:
x.s <- gsub("_", " ", x = x.s) #
delete underscore, for full
implementation see judges

x.s <- toupper(x.s)
x.f <- toupper(x.f)

# unload the workhorses:
attor.c.fos <- data.frame(table(x.s))
# frequency of surnames
attor.c.fof <- data.frame(table(x.f))
# freqnency of first names
colnames(attor.c.fos) <- c("s",
"freq.o")
colnames(attor.c.fof) <-
c("f","freq.o")
rm(x, x.l, x.f, x.s)

# Check whether all surnames and names
are contained in population datasets:
x <- merge(x = attor.c.fos, y = popul,
all.x = TRUE)
x[is.na(x$freq),] # <0 rows> (or 0-
length row.names) indicates that all
observed surnames are present in the
population data
if(nrow(x[is.na(x$freq),])>0)
paste("One surname or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed surnames are
contained in the population dataset.")

# a function to estimate the actual
number of individuals whose surnames
are contained in the dataset:
x.fun <- function(x, attor.s) {
missing.s <- as.character(x[is.na(x
$freq),][,1])
x.2 <- attor.s # loading the second
workhorse with information on imported
people.
missing.si <- rep.int(x = 1, times =
nrow(x.2)) # index file to a table,
thus nrow and not length

for(i in 1:length(missing.s))
missing.si[as.integer(rownames(x.
2[grep(pattern = missing.s[i], x = x.
2[,1], ignore.case = TRUE),]))] <- 0 #
0 stands for unmatched in population

print(
paste0("Some surnames do not match the
population data, therefore the total
number of junior attorneys is
estimated to have been reduced by ",
nrow(attor.s)-sum(missing.si), ". In
junior attorneys' surname dataset, the
total number of junior attorneys is
now reduced roughly to ",
sum(missing.si), ".")) # in a rare
case one surname is not retained while
another is, from one person; but this
is disregarded, in this calculation.
}

if(nrow(x[is.na(x$freq),])>0) x.fun(x
= x, attor.s = attor.s[attor.s[,2] ==
"koncipient",])

rm(x, x.fun)

x <- merge(x = attor.c.fof, y =
firstn, all.x = TRUE)
x[is.na(x$freq),] # (or 0-length
row.names) indicates that all observed
surnames are present in the population
data
if(nrow(x[is.na(x$freq),])>0)
paste("One first name or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed first names are
contained in the population dataset.")

# a function to estimate the actual
number of individuals whose first
names are contained in the dataset:
x.fun <- function(x, attor.s) {
missing.s <- as.character(x[is.na(x
$freq),][,1])
x.2 <- attor.s # loading the second
workhorse with information on imported
people.
```

```
missing.si <- rep.int(x = 1, times =
nrow(x.2)) # index file to a table,
thus nrow and not length

for(i in 1:length(missing.s))
missing.si[as.integer(rownames(x.
2[grep(pattern = missing.s[i], x = x.
2[,1], ignore.case = TRUE),]))] <- 0 #
0 stands for unmatched in population

print(
paste0("Some first names do not match
the population data, therefore the
total number of junior attorneys is
estimated to have been reduced by ",
nrow(attor.s)-sum(missing.si), ". In
junior attorneys' first name dataset,
the total number of junior attorneys
is now reduced roughly to ",
sum(missing.si), ".")) # in a rare
case one surname is not retained while
another is, from one person; but this
is disregarded, in this calculation.
}

if(nrow(x[is.na(x$freq),])>0) x.fun(x
= x, attor.s = attor.s[attor.s[,2] ==
"koncipient",])

rm(x, x.fun)

# create report tables without
unmatched surnames and unmatched first
names, merge with population
frequencies:
attor.c.fos <- merge(x = attor.c.fos,
y = popul) # This excludes misfits,
for all add all.x=TRUE
attor.c.fof <- merge(x = attor.c.fof,
y = firstn) # This excludes misfits,
for all add all.x=TRUE

# Reports:
x <- attor.c.fos
paste0("Some junior attorney's
surnames did not fit the 2013
population data. There are ", nrow(x),
" unique surnames among ", sum(x
$freq.o), " surnames of junior
attorneys as some attorneys feature
more than one surname. That is ",
round(100*(sum(x$freq.o)-nrow(x))/
sum(x$freq.o), 3), "% of surnames are
shared among at least two junior
attorneys.")

x <- attor.c.fof
paste0("Some junior attorney's first
names did not fit the 2013 population
data, due to typos. There are ",
nrow(x), " unique first names among
junior attorneys and some of them
feature more than one first name. That
is ", round(100*(sum(x$freq.o)-
nrow(x))/sum(x$freq.o), 3), "% of
first names are shared among at least
two senior attorneys.")

rm(x)

##################################
# FO Civil Servants: Import source
data, obtained from the Czech Ministry
of Foreign Affairs in May 2014

mzv.s <- read.csv(file =
"mzv.source.edit.csv", head = TRUE,
as.is = TRUE)
x <- mzv.s[,1] # load the workhorse

# check spaces at the start:
grep(pattern = "^ ", x = x)
grep(pattern = " $", x = x)

# custom changes after a review of
entries returned by x[grep(" ", x =
x)]:
from <- c("ABU EID", "LACHOUTOVÁ NATAL
DA LUZ", "VON KRIEGSHEIM KADLECOVÁ")
to <- c("ABU_EID", "LACHOUTOVÁ
NATAL_DA_LUZ", "VON_KRIEGSHEIM
KADLECOVÁ")

for(i in 1:length(from)) x[x ==
from[i]] <- to[i]
rm(from,to,i)

# split to aggregate surnames like in
freq in population or freq.o in
politicians:
x.l <- strsplit(x = x, split = " ")
x.s <- unlist(x.l)

# revert custom changes:
from <- c("ABU_EID", "NATAL_DA_LUZ",
"VON_KRIEGSHEIM")
to <- c("ABU EID", "NATAL DA LUZ",
"VON KRIEGSHEIM")
for(i in 1:length(from)) x.s[x.s ==
from[i]] <- to[i]
rm(from,to,i)

x.s <- toupper(x.s)

# unload the workhorse:
mzv.fos <- data.frame(table(x.s)) #
frequency of surnames
colnames(mzv.fos) <- c("s", "freq.o")
```

```
rm(x, x.l, x.s)

# check whether all surnames and names
are contained in population datasets:
x <- merge(x = mzv.fos, y = popul,
all.x = TRUE)
x[is.na(x$freq),] # <0 rows> (or 0-
length row.names) indicates that all
observed surnames are present in the
population data
if(nrow(x[is.na(x$freq),])>0)
paste("One surname or more do not
correspond to the population data.
Decide whether this is acceptable due
to typos, for example.") else
paste("All observed surnames are
contained in the population dataset.")

# a function to estimate the actual
number of individuals whose surnames
are contained in the dataset:
x.fun <- function(x, mzv.s) {
missing.s <- as.character(x[is.na(x
$freq),][,1])
x.2 <- mzv.s # loading the second
workhorse with information on imported
people.
missing.si <- rep.int(x = 1, times =
nrow(x.2)) # index file to a table,
thus nrow and not length

for(i in 1:length(missing.s))
missing.si[grep(pattern =
missing.s[i], x = x.2[,1], ignore.case
= TRUE)] <- 0 # 0 stands for unmatched
in population

print(
paste0("Some mzv employees do not
match the population data, therefore
the total number of the employees
could be reduced by upto ",
nrow(mzv.s)-sum(missing.si), ". In
employees' surname dataset, the total
number of employees is however reduced
only to ", nrow(mzv.s), ", that is by
1, as the other two persons with
missing surnames feature also non-
missing surnames. The total number of
mzv employees retained in the mzv
surname dataset is ", nrow(mzv.s)-1,
".")) # in a rare case one surname is
not retained while another is, from
one person; but this is disregarded,
in this calculation.
}

if(nrow(x[is.na(x$freq),])>0) x.fun(x
= x, mzv.s = mzv.s)

rm(x, x.fun)

# create report tables without
unmatched surnames and unmatched first
names, merge with population
frequencies:
mzv.fos <- merge(x = mzv.fos, y =
popul) # This excludes misfits, for
all add all.x=TRUE

# Reports:
x <- mzv.fos
paste0("There were ", nrow(mzv.s)-1, "
mzv employees imported. Very few
surnames did not fit the 2013
population data. There are ", nrow(x),
" unique surnames among ", sum(x
$freq.o), " surnames of the employees
as some of them feature more than one
surname. That is ", round(100*(sum(x
$freq.o)-nrow(x))/sum(x$freq.o), 3),
"% of surnames are shared among at
least two employees.")

rm(x)
```

R Protocol: Reference Dummy Vectors

```
###################################
# R Protocol: Reference Dummy Vectors:
Dummies match the real population
surname and first name frequencies.
###################################

# Dummy first name population
if(!length(grep("firstn.d.f", ls())) >
0){
firstn.dummy <- rep.int(x =
1:nrow(firstn), times =
firstn[(1:nrow(firstn)),2]) # vector
firstn.d.f <-
data.frame(t(table(firstn.dummy))) #
dummy first name frequency table
firstn.d.f <- firstn.d.f[,-1]
colnames(firstn.d.f) <- c("nominal",
"freq")
}

# Dummy surname population
if(!length(grep("popul.d.f", ls())) >
0){
popul.dummy <- rep.int(x =
1:nrow(popul), times =
popul[(1:nrow(popul)),2]) # vector
popul.d.f <-
data.frame(t(table(popul.dummy))) #
frequency table
```

```
popul.d.f <- popul.d.f[,-1]
colnames(popul.d.f) <- c("nominal",
"freq")
}

# Reports
paste0("Each nominal factor (surname)
corresponds to one of the ",
nrow(popul), " unique surnames
observed in the population. This dummy
population vector then contains ",
length(popul.dummy), " nominals
corresponding exactly to the
population unweighted surname
frequency. Note that this count does
not correspond to the population
weighted frequency, the sum of which
(", sum(popul$freq.w), ") is the Czech
Republic population size.")
print("Comparison of population [,1]
and dummy [,2] databases by basic
statistics:"); cbind(summary(popul[,
2]), summary(popul.d.f[,2]))
```

R Protocol: Export to a New Workspace

```
###################################
# R Protocol: Export to a New
Workspace to analyse, due to a very
large size of randomly drawn objects,
perform modelling in a separate R
workspace.
###################################

x <- c("attor.fof","attor.fos",
"firstn.d.f", "judge.fof",
"judge.fos", "mzv.fos", "notar.fof",
"notar.fos", "polit.fof", "polit.fos",
"popul.d.f", "firstn.dummy",
"popul.dummy") # these objects to
export as 2D tables will have been
forced to data frames by write.csv2
loc <- "Analysis/" # name of
subdirectory to store the exported
files

cont.tmp <- data.frame() # a temporary
list of contents
x <- x[order(x)]
x <- c(x, ls(pattern = "cont.tmp"))

paste0("An attempt is made to store ",
length(x), " objects to the ",
getwd(),"/",loc, " directory. It is
imperative you create this directory
beforehand. Note that existing files
can be overwritten.")

# exports objects stored in 'x' to the
'[current R workspace]/loc' directory
for(i in 1:length(x)){
cont.tmp <- rbind(cont.tmp,
cont[grep(x[i], cont[,1]),])
write.csv2(x = get(x[i]), file =
paste0(loc, x[i], ".csv"), row.names =
FALSE)
print(paste0("Attempted output no. ",
i, ": ", x[i]))
}

rm(x,i,cont.tmp, loc)

# Reports:
x <- c("attor.fof","attor.fos",
"firstn.d.f", "judge.fof",
"judge.fos", "mzv.fos", "notar.fof",
"notar.fos", "polit.fof", "polit.fos",
"popul.d.f", "firstn.dummy",
"popul.dummy")

table <- merge(data.frame(file = x,
stringsAsFactors = FALSE), cont) #
leaves out no matches
sum.f <- vector() # sum of frequencies
sum.n <- vector() # sum of nominals

for(i in 1:length(x)){
tmp <- get(table[i,1])
if(ncol(data.frame(tmp)) > 1){
sum.f[i] <- sum(tmp[,2])
sum.n[i] <- nrow(tmp)
} else {
sum.f[i] <- length(tmp)
sum.n[i] <- length(unique(tmp))}
}

table <- cbind(table,sum.f,sum.n)

rm(x, i, tmp, sum.f, sum.n)

library(xtable)
xtable(table[,c(1,3:4)]) # export
without description
```

R Protocol: Import, Analyse, and Model

```
###################################
# R Protocol: Import, Analyse, and
Model: Import Objects to Analyse, due
to a very large size of randomly drawn
objects, perform modelling in a
separate R workspace, e.g. "/Analyse"
###################################

x <- c("attor.fof","attor.fos",
"firstn.d.f", "judge.fof",
```

```
"judge.fos", "mzv.fos", "notar.fof",
"notar.fos", "polit.fof", "polit.fos",
"popul.d.f", "firstn.dummy",
"popul.dummy") # these 2D tables will
import as data.frame() objects; the
file names are expected
v <- c("firstn.dummy", "popul.dummy")
# end-objects of these need to be a
vectors

cont.tmp <- data.frame() # this
temporary list of contents is also
expected to be retrieved from the
current workspace directory
x <- x[order(x)]
x <- c(x, ls(pattern = "cont.tmp"))

paste0("An attempt is made to retrieve
", length(x), " files from the ",
getwd(),"/ directory. Note that
existing objects can be overwritten,
in this R workspace.")

# retrieves objects stored in 'x' from
the '[current R workspace]' directory
for(i in 1:length(x)){
assign(x[i], read.csv2(file =
paste0(x[i],".csv")))
print(paste0("Attempted retrieval no.
", i, ": ", paste0(x[i],".csv")))
}

# a custom conversion of a first
column to vector
for(i in 1:length(v))
assign(v[i], get(v[i])[,1])

rm(x,v,i)

####################################
# (1) Hypotheses Layout
####################################
# 1: polit.fof, there are random first
names
# 2: polit.fos, there are random
surnames
# 3: attor.fos, there are random
surnames
# 4: judge.fos, there are random
surnames
# 5: notar.fos, there are random
surnames
# 6: mzv.fos, there are random
surnames
# 7: attor.fof, there are random first
names
# 8: judge.fof, there are random first
names
# 9: notar.fof, there are random first
names
# 10: law.fos, there are random
surnames, added later
# 11: law.fof, there are random first
naems, added later

hyp.g <- data.frame(id = vector(),
pert = vector(), dummy = vector(),
dummy.f = vector(), loops = vector(),
size = vector(), stamp = vector()) #
grid of hypotheses
hyp.g [1,1:5] <- c(1, "polit.fof",
"firstn.dummy", "firstn.d.f", 5000)
hyp.g [2,1:5] <- c(2, "polit.fos",
"popul.dummy", "popul.d.f", 10000)
hyp.g [3,1:5] <- c(3, "attor.fos",
"popul.dummy", "popul.d.f", 5000)
hyp.g [4,1:5] <- c(4, "judge.fos",
"popul.dummy", "popul.d.f", 10000)
hyp.g [5,1:5] <- c(5, "notar.fos",
"popul.dummy", "popul.d.f", 10000)
hyp.g [6,1:5] <- c(6, "mzv.fos",
"popul.dummy", "popul.d.f", 10000)
hyp.g [7,1:5] <- c(7, "attor.fof",
"firstn.dummy", "firstn.d.f", 5000)
hyp.g [8,1:5] <- c(8, "judge.fof",
"firstn.dummy", "firstn.d.f", 5000)
hyp.g [9,1:5] <- c(9, "notar.fof",
"firstn.dummy", "firstn.d.f", 5000)
hyp.g[,1] <- as.integer(hyp.g[,1])
hyp.g[,5] <- as.integer(hyp.g[,5])

####################################
# (2) Draw Random Samples without
Replacement on hypothesis 'run'
# This script is re-used in section
7., consider turning this into a
function.
####################################

run <- c(2,3,4,5,6) # Id. of
hypotheses to run sampling on

for(r in 1:length(run)){
# ad A. Use an existing dummy vector
and freq table
# definitions: parametres
hyp.e <- hyp.g[run[r],] # extract the
id-ed hypothesis case
hyp <- hyp.e$id # the id number of an
hypothesis to be tested, here
pert <- hyp.e$pert # the object which
pertains to the hypothesis
loops <- hyp.e$loops # an arbitrary
no. of random draws
dummy <- get(hyp.e$dummy)# a vector of
population nominals, pertains to pert
```

```
dummy.f <- get(hyp.e$dummy.f) # a
frequency table of population
nominals, pertains to dummy
rm(hyp.e)

# definitions: deduced parametres
obs <- get(pert) # frequency table of
observed nominals
sample.size <- sum(obs$freq.o) # the
observed sample size

# definitions: function
random.draw <- function(sample.size,
loops, dummy, dummy.f){
max <- length(dummy)
x <- list() # the workhorse
for(i in 1:loops){
sample <- sample(1:max, sample.size,
replace = FALSE)
tmp <-
data.frame(table(dummy[sample]))
colnames(tmp) <- c("nominal",
"sample.f")
tmp <- cbind(tmp, popul.f =
dummy.f[as.numeric(as.character(tmp[,
1])),2])
x [[i]] <- tmp
}
return(x) # unload the workhorse
}

# ad B. Loop random sampling 'loop'
times to create randomly drawn samples
(takes about NA minutes)

# executing the function
if(length(grep(paste0("sample.",hyp),
x = ls()))>0){
print(paste0("Warning, the object '",
paste0("sample.",hyp), "' already
exists and no attempt is made to
generate it anew. If you want a new
object generated, remove the existing
object, first."))
} else{
assign(paste0("sample.",hyp),
random.draw(sample.size = sample.size,
loops = loops, dummy = dummy, dummy.f
= dummy.f)) # sample.x corresponds to
hypothesis x.
print(paste0("A new object '",
paste0("sample.",hyp),"' has been
added to the current R workspace. It
pertains to the hypothesis no. ", hyp,
" and object '", pert, "'."))
hyp.g[hyp,6] <- sample.size # store
the sample size in the grid
hyp.g[hyp,7] <- date() # stamp-it
}
rm(sample.size, loops, dummy, dummy.f,
random.draw, obs, pert, hyp)

} # end of r-loop

paste0("An attempt has been made to
run sampling on hypotheses no. ", run,
". Review reports printed above to
determine success.")

rm(r, run)

###################################
# (3) Compute Expected Values: for
'sample.run' or hypothesis.run
###################################
# This section can override report
objects stored in the current
workspace.
# Determine these statistics:
# expected values of rank 2+ and rank
1
# expected values of Fisher's alpha,
100*I = 100*1/alpha
library("vegan")
# expected values of Yule's K

# for these hypotheses:
run <- c(2,3,4,5,6) # Id. of
hypotheses to run sampling on

report.exp <- data.frame(mean.stats =
c("rank 1", "rank 2+", "F.alpha",
"F.a.prob", "Yule.K", "loops", "size",
"pert", "report"), stringsAsFactors =
FALSE) # reports expected values by
computing the mean of random

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id # determines the no.
of hypothesis
pert <- hyp.e$pert
set <- get(paste0("sample.", hyp)) #
gets the set of random samples which
corresponds to this hypothesis

# generate statistics for the set
rep.tmp <- data.frame(stats =
report.exp[1:5,1], stringsAsFactors =
FALSE)

for(c in 1:length(set)){
tmp <- colSums(table(set[[c]][,1:2]))
tmp <- data.frame(rank =
as.integer(names(tmp)), Vi = tmp,
freq.o = as.integer(names(tmp))*tmp)
```

```
rep.tmp[1,(c+1)] <- tmp[1,3] # count
of rank 1 surnames
rep.tmp[2,(c+1)] <-
sum(tmp[2:nrow(tmp),3]) # sum of count
of rank 2+ surnames
rep.tmp[3,(c+1)] <-
round(fisher.alpha(x = set[[c]][,2]),
0) # Fisher's alpha
rep.tmp[4,(c+1)] <- round(100*(1/
rep.tmp[3,(c+1)]+1/sum(tmp$freq.o)),3)
# 100*(1/alpha+1/N), that is given in
percent!
rep.tmp[5,(c+1)] <- round((sum((tmp
$rank^2)*tmp$Vi)-sum(tmp$freq.o))/
(sum(tmp$freq.o)^2)*10^4, 3) # Yule's
K
}
rm(c, tmp)

assign(paste0("report.", hyp, ".set"),
rep.tmp) # creates the corresponding
report object, empties an existing one
with the same name; offload

print(paste0("An attempt has been made
made to compute stats for hypothesis
no. ", hyp," by analysing the set
'sample.", hyp,"' and to write the
stats into the 'report.", hyp,".set'
object."))

# obtain expected frequencies by mean
and store output by sample.run
# paste0("sample.",hyp)
x <- get(paste0("report.",hyp,".set"))
x <- x[,-1]
report.exp[1:nrow(x),
(length(report.exp)+1)] <- rowMeans(x)
colnames(report.exp)
[length(colnames(report.exp))] <-
paste0("sample.",hyp)
rm(x)
report.exp[6,length(report.exp)] <-
length(get(paste0("sample.",hyp))) #
no. of loops
report.exp[7,length(report.exp)] <-
sum(get(paste0("sample.",hyp))[[1]][,
2]) # size of sample
report.exp[8,length(report.exp)] <-
pert # pertains to observed
report.exp[9,length(report.exp)] <-
paste0("report.",hyp,".set") #
pertains to observed

rm(rep.tmp, set, hyp.e, hyp, pert)
} # end of run

rm(r, run)

print("Overview of hypotheses:")
hyp.g

print("These are expected values by
random samples:")
report.exp

###################################
# (4) Compute observed values
###################################
# This section can override report
objects stored in the current
workspace.
# Determine these statistics:
# expected values of rank 2+ and rank
1
# expected values of Fisher's alpha, ?
plus 1/alpha
library("vegan")
# expected values of Yule's K
# normality fit of rank 2+ and rank 1

# for these observed samples in hyp.g:
run <- c(2,3,4,5,6) # Id. of
hypotheses to run sampling on

report.o <- data.frame(stats = c("rank
1", "rank 2+", "F.alpha", "F.a.prob",
"Yule.K", "loops", "size", "pert")) #
reports observed values

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
pert <- hyp.e$pert
sample <- get(pert) # gets the set of
random samples which corresponds to
this hypothesis

# generate statistics for the sample
tmp <- colSums(table(sample[,1:2]))
tmp <- data.frame(rank =
as.integer(names(tmp)), Vi = tmp,
freq.o = as.integer(names(tmp))*tmp)
report.o[1,(length(report.o)+1)] <-
tmp[1,3] # count of rank 1 surnames
report.o[2,length(report.o)] <-
sum(tmp[2:nrow(tmp),3]) # sum of count
of rank 2+ surnames
report.o[3,length(report.o)] <-
round(fisher.alpha(x = sample[,2]), 0)
# Fisher's alpha
report.o[4,length(report.o)] <-
round(100*(1/
report.o[3,length(report.o)]+1/sum(tmp
$freq.o)),3) # 100*(1/alpha+1/N), that
is given in percent!
```

```
report.o[5,length(report.o)] <-
round((sum((tmp$rank^2)*tmp$Vi)-
sum(tmp$freq.o))/(sum(tmp
$freq.o)^2)*10^4, 3) # Yule's K
report.o[6,length(report.o)] <- NA #
no. of loops
report.o[7,length(report.o)] <-
sum(tmp$freq.o) # size of sample
report.o[8,length(report.o)] <-
paste0("sample.", hyp) # pertains to
expected
colnames(report.o)
[length(colnames(report.o))] <- pert
print(paste0("An attempt has been made
made to compute stats for sample '",
pert,"' and to write the stats into
the 'report.o' object."))
} # end of run

rm(hyp.e,hyp,pert,tmp,r,run, sample)

print("Overview of hypotheses:")
hyp.g

print("These are observed values in
samples:")
report.o

print("These are expected values as
computed from random samples:")
report.exp

###################################
# (5) Determine the 5% bracket of null
hypothesis
###################################

run <- c(2,3,4,5,6) # Id. of
hypotheses to run sampling on

report.exp[10:15,1] <-
c("r2.c2","r2.cutoff","fa.c2","fa.cuto
ff", "yk.c2", "yk.cutoff")

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
set <- get(paste0("report.", hyp,
".set"))
rank.2 <-
as.integer(set[2,2:length(set)]) #
vector of rank 2+ sums
F.alpha <-
as.integer(set[3,2:length(set)]) #
vector of Fisher's alphas
Yule.K <-
as.numeric(set[5,2:length(set)]) #
vector of Fisher's alphas
# plus other stats which need brackets

tmp <- table(rank.2)
# plot(tmp) # plot rank 2+, here
tmp <- data.frame(tmp)
tmp <- data.frame(tmp,cum.sum =
cumsum(tmp[,2]), cum.perc =
cumsum(tmp[,2])/sum(tmp[,2]))
r2.c2 <-
as.integer(as.character(tmp[tmp[,4] >
0.95,][1,1])) # this value and larger
is p < 0.05
r2.cutoff <-
as.integer(as.character(tmp[!tmp[,4] >
0.95,][nrow(tmp[!tmp[,4] > 0.95,]),
1])) # all values larger than this are
p < 0.05
tmp <- table(F.alpha)
# plot(tmp) # plot Fisher's alpha,
here
tmp <- data.frame(tmp)
tmp <- data.frame(tmp,cum.sum =
cumsum(tmp[,2]), cum.perc =
cumsum(tmp[,2])/sum(tmp[,2]))
fa.c2 <-
as.integer(as.character(tmp[tmp[,4] <
0.05,][nrow(tmp[tmp[,4] < 0.05,]),1]))
# this value and smaller are p < 0.05
fa.cutoff <-
as.integer(as.character(tmp[!tmp[,4] <
0.05,][1,1])) # all values larger than
this are p < 0.05
tmp <- table(Yule.K)
# plot(tmp) # plot Yule's K, here
tmp <- data.frame(tmp)
tmp <- data.frame(tmp,cum.sum =
cumsum(tmp[,2]), cum.perc =
cumsum(tmp[,2])/sum(tmp[,2]))
yk.c2 <-
as.numeric(as.character(tmp[tmp[,4] >
0.95,][1,1])) # this value and larger
is p < 0.05
yk.cutoff <-
as.numeric(as.character(tmp[!tmp[,4] >
0.95,][nrow(tmp[!tmp[,4] > 0.95,]),
1])) # all values larger than this are
p < 0.05

col <- colnames(report.exp) ==
paste0("sample.", hyp)
report.exp[10,col] <- r2.c2
report.exp[11,col] <- r2.cutoff
report.exp[12,col] <- fa.c2
report.exp[13,col] <- fa.cutoff
report.exp[14,col] <- yk.c2
report.exp[15,col] <- yk.cutoff

} # end of run
```

```
rm(rank.2, col, F.alpha, r2.cutoff,
r2.c2,fa.cutoff, fa.c2, Yule.K,
yk.cutoff, yk.c2, set, tmp, hyp,
hyp.e, r, run)

print("Expected values have been
fitted with border and cutoff
values:")
report.exp

print("List of hypotheses:")
hyp.g

##################################
# (6) Compute cutoff distances
##################################

# in rank 2+

run <- c(2,3,4,5,6) # Id. of
hypotheses to run sampling on

report.r2 <- data.frame(pert =
vector(), n = vector(), o = vector(),
exp = vector(), r2.cutoff = vector(),
dist = vector(), proc = vector(),
nepot = vector(), stringsAsFactors =
FALSE)

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
pert <- hyp.e$pert
n <-
as.numeric(report.o[7,colnames(report.
o) == pert]) # retrieves n
o <-
as.numeric(report.o[2,colnames(report.
o) == pert]) # retrieves rank 2+
exp <-
round(as.numeric(report.exp[2,report.e
xp[8,] == pert,]),0) # retrieves rank
2+
r2.cutoff <-
as.numeric(report.exp[11,report.exp[8,
] == pert,]) # retrieves the cutoff
dist <- o - r2.cutoff # computes the
distance
proc <- round(100*dist/n,2)
report.r2[r,] <- c(pert, n, o, exp,
r2.cutoff, dist, proc, "")

}

rm(r,run,hyp.e,pert, o, exp,
r2.cutoff,dist, proc)

# in Fisher's alpha

run <- c(2,3,4,5,6) # Id. of
hypotheses to run sampling on

report.fa <- data.frame(pert =
vector(), n = vector(), o = vector(),
exp = vector(), fa.cutoff = vector(),
nepot = vector(), stringsAsFactors =
FALSE)

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
pert <- hyp.e$pert
set <-
get(paste0("report.",hyp,".set"))
fa <- as.numeric(set[3,-1]) # vector
of Fisher's alphas; test normality by
ks.test(fa, "pnorm", mean = mean(fa),
sd = sd(fa))
n <-
as.numeric(report.o[7,colnames(report.
o) == pert]) # retrieves n
o <-
as.numeric(report.o[3,colnames(report.
o) == pert]) # retrieves F's a
(observed)
exp <- round(mean(fa),0) # retrieves
mean F's a (expected)
fa.cutoff <-
as.numeric(report.exp[13,report.exp[8,
] == pert,]) # retrieves the cutoff
report.fa[r,] <- c(pert, n, o, exp,
fa.cutoff, "")

}

rm(r,run,hyp.e,pert, set, fa, n, o,
exp, fa.cutoff)

# in Yule's K
run <- c(2,3,4,5,6) # Id. of
hypotheses to run sampling on

report.yk <- data.frame(pert =
vector(), n = vector(), o = vector(),
exp = vector(), yk.cutoff = vector(),
nepot = vector(), stringsAsFactors =
FALSE)

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
pert <- hyp.e$pert
set <-
get(paste0("report.",hyp,".set"))
yk <- as.numeric(set[5,-1]) # vector
of Yule's Ks; test normality by
```

```
ks.test(yk, "pnorm", mean = mean(yk),
sd = sd(yk))
n <-
as.numeric(report.o[7,colnames(report.
o) == pert]) # retrieves n
o <-
as.numeric(report.o[5,colnames(report.
o) == pert]) # retrieves F's a
(observed)
exp <- round(mean(yk),3) # retrieves
mean F's a (expected)
yk.cutoff <-
as.numeric(report.exp[15,report.exp[8,
] == pert,]) # retrieves the cutoff
report.yk[r,] <- c(pert, n, o, exp,
yk.cutoff, "")

}

rm(r,run,hyp.e,pert, set, yk, n, o,
exp, yk.cutoff)

###################################
# Reports

library(xtable)

# observed values
xtable(report.o[c(-6,-8),c(1,2,4,5,6,3
)]) # and add this information on
unique surnames by dataset, by hand:

tmp <- c("polit.fos", "judge.fos",
"notar.fos", "mzv.fos", "attor.fos")
for(i in 1:length(tmp))
{print(cbind(tmp[i],nrow(get(tmp[i])))
)};rm(i,tmp)

# expected values
xtable(report.exp[c(8,6,7,1,2,11,3,13,
4,5,15),c(1,2,4,5,6,3)])

# report rank 2+
xtable(report.r2[c(1,3,4,5,2),c(1,2,4,
5,3,6,7,8)])

# report Fisher's alpha
xtable(report.fa[c(1,3,4,5,2),c(1,2,4,
5,3,6)])

# report Yule's K
xtable(report.yk[c(1,3,4,5,2),c(1,2,4,
5,3,6)])

# Histograms of random frequencies of
rank 2+
r2.p <- as.numeric(report.2.set[2,-1])
# vector of rank 2+; test normality by
ks.test(r2, "pnorm", mean = mean(r2),
sd = sd(r2)) # politicians
r2.j <- as.numeric(report.4.set[2,-1])
# vector of rank 2+, judges
r2.n <- as.numeric(report.5.set[2,-1])
# vector of rank 2+, notaries
r2.f <- as.numeric(report.6.set[2,-1])
# vector of rank 2+, FO
r2.a <- as.numeric(report.3.set[2,-1])
# vector of rank 2+, attorneys

par(mfrow=c(3,2))
tmp <- table(r2.p) # for politicians
plot(tmp, main="Chart 2: Politicians",
xlab = paste0("Rank 2+ of ", sum(tmp),
" random samples, each n = ",
report.o[7,2], "\n The 5% cutoff is ",
report.exp[11,2]), ylab = "Freq. of
Cases", col =
ifelse((as.integer(rownames(tmp)) >
report.exp[11,2]), "red", "black"))
tmp <- table(r2.j) # for judges
plot(tmp, main="Chart 3: Judges", xlab
= paste0("Rank 2+ of ", sum(tmp), "
random samples, each n = ",
report.o[7,4], "\n The 5% cutoff is ",
report.exp[11,4]), ylab = "Freq. of
Cases", col =
ifelse((as.integer(rownames(tmp)) >
report.exp[11,4]), "red", "black"))
tmp <- table(r2.n) # for notaries
plot(tmp, main="Chart 4: Notaries",
xlab = paste0("Rank 2+ of ", sum(tmp),
" random samples, each n = ",
report.o[7,5], "\n The 5% cutoff is ",
report.exp[11,5]), ylab = "Freq. of
Cases", col =
ifelse((as.integer(rownames(tmp)) >
report.exp[11,5]), "red", "black"))
tmp <- table(r2.f) # for FO civil
servants
plot(tmp, main="Chart 5: Foreign
Off.", xlab = paste0("Rank 2+ of ",
sum(tmp), " random samples, each n =
", report.o[7,6], "\n The 5% cutoff is
", report.exp[11,6]), ylab = "Freq. of
Cases", col =
ifelse((as.integer(rownames(tmp)) >
report.exp[11,6]), "red", "black"))
tmp <- table(r2.a) # for attorneys
plot(tmp, main="Chart 6: Attorneys",
xlab = paste0("Rank 2+ of ", sum(tmp),
" random samples, each n = ",
report.o[7,3], "\n The 5% cutoff is ",
report.exp[11,3]), ylab = "Freq. of
Cases", col =
ifelse((as.integer(rownames(tmp)) >
report.exp[11,3]), "red", "black"))
```

```
title("Random Occurrence of 'rank 2+'
with 5% of cases marked in red", outer
= TRUE, line = -1)

rm(r2.p, r2.j, r2.n, r2.f, r2.a, tmp)

###################################
# (7) First Names and Surnames: First
names are randomly distributed while
surnames are not
###################################
# Politicians (polit.fof, polit.fos)
# Attorneys (attor.fof, attor.fos)
# Legal Practicioners (law.fof and
law.fos to be created from judges,
notaries, attorneys)

# Prime datasets, create law.fof and
law.fos
law.fos <- rbind(judge.fos[,1:2],
notar.fos[,1:2], attor.fos[,1:2])
tmp <- aggregate(law.fos[,2], by =
list(law.fos[,1]), FUN = sum)
colnames(tmp) <- colnames(law.fos)
law.fos <- tmp # all legal
practicioners' surnames
law.fof <- rbind(judge.fof[,1:2],
notar.fof[,1:2], attor.fof[,1:2])
tmp <- aggregate(law.fof[,2], by =
list(law.fof[,1]), FUN = sum)
colnames(tmp) <- colnames(law.fof)
law.fof <- tmp # all legal
practicioners' first names
rm(tmp)
# Add to the list of hypotheses
hyp.g[10,1:5] <- c(10,"law.fos",
"popul.dummy", "popul.d.f", 5000)
hyp.g[11,1:5] <- c(11,"law.fof",
"firstn.dummy", "firstn.d.f", 5000)

###################################
# Generate Random Draws (the following
script is a copy of script 2. above;
consider to turn this procedure into a
function)
# Draw Random Samples without
Replacement on hypothesis 'run'

run <- c(1, 7, 10, 11)# hypotheses ids

for(r in 1:length(run)){
# ad A. Use an existing dummy vector
and freq table
# definitions: parametres
hyp.e <- hyp.g[run[r],] # extract the
id-ed hypothesis case
hyp <- hyp.e$id # the id number of an
hypothesis to be tested, here
pert <- hyp.e$pert # the  object which
pertains to the hypothesis
loops <- hyp.e$loops # an arbitrary
no. of random draws
dummy <- get(hyp.e$dummy)# a vector of
population nominals, pertains to pert
dummy.f <- get(hyp.e$dummy.f) # a
frequency table of population
nominals, pertains to dummy
rm(hyp.e)

# definitions: deduced parametres
obs <- get(pert) # frequency table of
observed nominals
sample.size <- sum(obs$freq.o) # the
observed sample size

# definitions: function
random.draw <- function(sample.size,
loops, dummy, dummy.f){
max <- length(dummy)
x <- list() # the workhorse
for(i in 1:loops){
sample <- sample(1:max, sample.size,
replace = FALSE)
tmp <-
data.frame(table(dummy[sample]))
colnames(tmp) <- c("nominal",
"sample.f")
tmp <- cbind(tmp, popul.f =
dummy.f[as.numeric(as.character(tmp[,
1])),2])
x [[i]] <- tmp
}
return(x) # unload the workhorse
}

# Loop random sampling 'loop' times to
create randomly drawn samples (takes
about NA minutes)

# executing the function
if(length(grep(paste0("sample.",hyp),
x = ls()))>0){
print(paste0("Warning, the object '",
paste0("sample.",hyp), "' already
exists and no attempt is made to
generate it anew. If you want a new
object generated, remove the existing
object, first."))
} else{
assign(paste0("sample.",hyp),
random.draw(sample.size = sample.size,
loops = loops, dummy = dummy, dummy.f
= dummy.f)) # sample.x corresponds to
hypothesis x.
print(paste0("A new object '",
paste0("sample.",hyp),"' has been
added to the current R workspace. It
```

```
pertains to the hypothesis no. ", hyp,
" and object '", pert, "'."))
hyp.g[hyp,6] <- sample.size # store
the sample size in the grid
hyp.g[hyp,7] <- date() # stamp-it
}
rm(sample.size, loops, dummy, dummy.f,
random.draw, obs, pert, hyp)

} # end of r-loop

paste0("An attempt has been made to
run sampling on hypotheses no. ", run,
". Review reports printed above to
determine success.")

rm(r, run)

###################################
# Compute expected values (the
following script is a copy of script
3. above;
# for 'sample.run' or hypothesis.run
# This section can override report
objects stored in the current
workspace.
# Determine these statistics:
# expected values of rank 2+ and rank
1
# expected values of Fisher's alpha,
100*I = 100*1/alpha
library("vegan")
# expected values of Yule's K

run <- c(1, 7, 10, 11) # hypotheses
ids

if(length(grep("report.exp", x =
ls()))>0){print("The object report.exp
already exists and it will not be
dumped.")} else {print("Dumping
report.exp object."); report.exp <-
data.frame(mean.stats = c("rank 1",
"rank 2+", "F.alpha", "F.a.prob",
"Yule.K", "loops", "size", "pert",
"report"), stringsAsFactors = FALSE)}

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id # determines the no.
of hypothesis
pert <- hyp.e$pert
set <- get(paste0("sample.", hyp)) #
gets the set of random samples which
corresponds to this hypothesis

# generate statistics for the set

rep.tmp <- data.frame(stats =
report.exp[1:5,1], stringsAsFactors =
FALSE)

for(c in 1:length(set)){
tmp <- colSums(table(set[[c]][,1:2]))
tmp <- data.frame(rank =
as.integer(names(tmp)), Vi = tmp,
freq.o = as.integer(names(tmp))*tmp)
rep.tmp[1,(c+1)] <- tmp[1,3] # count
of rank 1 surnames
rep.tmp[2,(c+1)] <-
sum(tmp[2:nrow(tmp),3]) # sum of count
of rank 2+ surnames
rep.tmp[3,(c+1)] <-
round(fisher.alpha(x = set[[c]][,2]),
0) # Fisher's alpha
rep.tmp[4,(c+1)] <- round(100*(1/
rep.tmp[3,(c+1)]+1/sum(tmp$freq.o)),3)
# 100*(1/alpha+1/N), that is given in
percent!
rep.tmp[5,(c+1)] <- round((sum((tmp
$rank^2)*tmp$Vi)-sum(tmp$freq.o))/
(sum(tmp$freq.o)^2)*10^4, 3) # Yule's
K
}
rm(c, tmp)

assign(paste0("report.", hyp, ".set"),
rep.tmp) # creates the corresponding
report object, empties an existing one
with the same name; offload

print(paste0("An attempt has been made
made to compute stats for hypothesis
no. ", hyp," by analysing the set
'sample.", hyp,"' and to write the
stats into the 'report.", hyp,".set'
object."))

# obtain expected frequencies by mean
and store output by sample.run
# paste0("sample.",hyp)
x <- get(paste0("report.",hyp,".set"))
x <- x[,-1]
report.exp[1:nrow(x),
(length(report.exp)+1)] <- rowMeans(x)
colnames(report.exp)
[length(colnames(report.exp))] <-
paste0("sample.",hyp)
rm(x)
report.exp[6,length(report.exp)] <-
length(get(paste0("sample.",hyp))) #
no. of loops
report.exp[7,length(report.exp)] <-
sum(get(paste0("sample.",hyp))[[1]][,
2]) # size of sample
report.exp[8,length(report.exp)] <-
pert # pertains to observed
```

```
report.exp[9,length(report.exp)] <-
paste0("report.",hyp,".set") #
pertains to observed

rm(rep.tmp, set, hyp.e, hyp, pert)
} # end of run

rm(r, run)

print("Overview of hypotheses:")
hyp.g

print("These are expected values by
random samples:")
report.exp

###################################
# Compute observed values (the
following script is a copy of script
4. above;
# This section can override report
objects stored in the current
workspace.
# Determine these statistics:
# expected values of rank 2+ and rank
1
# expected values of Fisher's alpha, ?
plus 1/alpha
library("vegan")
# expected values of Yule's K
# normality fit of rank 2+ and rank 1

run <- c(1, 7, 10, 11) # hypotheses
ids

if(length(grep("report.o", x =
ls()))>0){print("The object report.o
already exists, and it will not be
dumped.")} else {print("Dumping
report.o object."); report.o <-
data.frame(stats = c("rank 1", "rank
2+", "F.alpha", "F.a.prob", "Yule.K",
"loops", "size", "pert"))} # reports
observed values

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
pert <- hyp.e$pert
sample <- get(pert) # gets the set of
random samples which corresponds to
this hypothesis

# generate statistics for the sample
tmp <- colSums(table(sample[,1:2]))
tmp <- data.frame(rank =
as.integer(names(tmp)), Vi = tmp,
freq.o = as.integer(names(tmp))*tmp)
report.o[1,(length(report.o)+1)] <-
tmp[1,3] # count of rank 1 surnames
report.o[2,length(report.o)] <-
sum(tmp[2:nrow(tmp),3]) # sum of count
of rank 2+ surnames
report.o[3,length(report.o)] <-
round(fisher.alpha(x = sample[,2]), 0)
# Fisher's alpha
report.o[4,length(report.o)] <-
round(100*(1/
report.o[3,length(report.o)]+1/sum(tmp
$freq.o)),3) # 100*(1/alpha+1/N), that
is given in percent!
report.o[5,length(report.o)] <-
round((sum((tmp$rank^2)*tmp$Vi)-
sum(tmp$freq.o))/(sum(tmp
$freq.o)^2)*10^4, 3) # Yule's K
report.o[6,length(report.o)] <- NA #
no. of loops
report.o[7,length(report.o)] <-
sum(tmp$freq.o) # size of sample
report.o[8,length(report.o)] <-
paste0("sample.", hyp) # pertains to
expected
colnames(report.o)
[length(colnames(report.o))] <- pert
print(paste0("An attempt has been made
made to compute stats for sample '",
pert,"' and to write the stats into
the 'report.o' object."))
} # end of run

rm(hyp.e,hyp,pert,tmp,r,run, sample)

print("Overview of hypotheses:")
hyp.g

print("These are observed values in
samples:")
report.o

print("These are expected values as
computed from random samples:")
report.exp

###################################
# Determine the 5% bracket (the
following script is a copy of script
5. above)

run <- c(1, 7, 10, 11) # hypotheses
ids

if(nrow(report.exp) > 10){print("There
is no need to create lines 10:15.")}
else{print("Lines 10:15 will be
created"); report.exp[10:15,1] <-
c("r2.c2","r2.cutoff","fa.c2","fa.cuto
ff", "yk.c2", "yk.cutoff")}
```

```
for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
set <- get(paste0("report.", hyp,
".set"))
rank.2 <-
as.integer(set[2,2:length(set)]) #
vector of rank 2+ sums
F.alpha <-
as.integer(set[3,2:length(set)]) #
vector of Fisher's alphas
Yule.K <-
as.numeric(set[5,2:length(set)]) #
vector of Fisher's alphas
# plus other stats which need brackets

tmp <- table(rank.2)
# plot(tmp) # plot rank 2+, here
tmp <- data.frame(tmp)
tmp <- data.frame(tmp,cum.sum =
cumsum(tmp[,2]), cum.perc =
cumsum(tmp[,2])/sum(tmp[,2]))
r2.c2 <-
as.integer(as.character(tmp[tmp[,4] >
0.95,][1,1])) # this value and larger
is p < 0.05
r2.cutoff <-
as.integer(as.character(tmp[!tmp[,4] >
0.95,][nrow(tmp[!tmp[,4] > 0.95,]),
1])) # all values larger than this are
p < 0.05
tmp <- table(F.alpha)
# plot(tmp) # plot Fisher's alpha,
here
tmp <- data.frame(tmp)
tmp <- data.frame(tmp,cum.sum =
cumsum(tmp[,2]), cum.perc =
cumsum(tmp[,2])/sum(tmp[,2]))
fa.c2 <-
as.integer(as.character(tmp[tmp[,4] <
0.05,][nrow(tmp[tmp[,4] < 0.05,]),1]))
# this value and smaller are p < 0.05
fa.cutoff <-
as.integer(as.character(tmp[!tmp[,4] <
0.05,][1,1])) # all values larger than
this are p < 0.05
tmp <- table(Yule.K)
# plot(tmp) # plot Yule's K, here
tmp <- data.frame(tmp)
tmp <- data.frame(tmp,cum.sum =
cumsum(tmp[,2]), cum.perc =
cumsum(tmp[,2])/sum(tmp[,2]))
yk.c2 <-
as.numeric(as.character(tmp[tmp[,4] >
0.95,][1,1])) # this value and larger
is p < 0.05
yk.cutoff <-
as.numeric(as.character(tmp[!tmp[,4] >
0.95,][nrow(tmp[!tmp[,4] > 0.95,]),
1])) # all values larger than this are
p < 0.05

col <- colnames(report.exp) ==
paste0("sample.", hyp)
report.exp[10,col] <- r2.c2
report.exp[11,col] <- r2.cutoff
report.exp[12,col] <- fa.c2
report.exp[13,col] <- fa.cutoff
report.exp[14,col] <- yk.c2
report.exp[15,col] <- yk.cutoff

} # end of run

rm(rank.2, col, F.alpha, r2.cutoff,
r2.c2,fa.cutoff, fa.c2, Yule.K,
yk.cutoff, yk.c2, set, tmp, hyp,
hyp.e, r, run)

print("Expected values have been
fitted with border and cutoff
values:")
report.exp

print("List of hypotheses:")
hyp.g

###################################
# Determine Compute cutoff distances
(the following script is a copy of
script 6. above)

# in rank 2+
run <- c(1, 7, 10, 11) # hypotheses
ids

if(length(grep("report.r2", x =
ls()))>0){print("The object report.r2
already exists, and it will not be
dumped.")} else {print("Dumping
report.r2 object."); report.r2 <-
data.frame(pert = vector(), n =
vector(), o = vector(), exp =
vector(), r2.cutoff = vector(), dist =
vector(), proc = vector(), nepot =
vector(), stringsAsFactors = FALSE)}

nr <- nrow(report.r2) # existing rows

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
pert <- hyp.e$pert
```

```
n <-
as.numeric(report.o[7,colnames(report.
o) == pert]) # retrieves n
o <-
as.numeric(report.o[2,colnames(report.
o) == pert]) # retrieves rank 2+
exp <-
round(as.numeric(report.exp[2,report.e
xp[8,] == pert,]),0) # retrieves rank
2+
r2.cutoff <-
as.numeric(report.exp[11,report.exp[8,
] == pert,]) # retrieves the cutoff
dist <- o - r2.cutoff # computes the
distance
proc <- round(100*dist/n,2)
report.r2[r+nr,] <- c(pert, n, o, exp,
r2.cutoff, dist, proc, "") # adding on
top of existing rows 'nr'

}

rm(r,run,hyp.e,pert, o, exp,
r2.cutoff,dist, proc)

# in Fisher's alpha
run <- c(1, 7, 10, 11) # hypotheses
ids

if(length(grep("report.fa", x =
ls()))>0){print("The object report.fa
already exists, and it will not be
dumped.")} else {print("Dumping
report.fa object."); report.fa <-
data.frame(pert = vector(), n =
vector(), o = vector(), exp =
vector(), fa.cutoff = vector(), nepot
= vector(), stringsAsFactors = FALSE)}

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
pert <- hyp.e$pert
set <-
get(paste0("report.",hyp,".set"))
fa <- as.numeric(set[3,-1]) # vector
of Fisher's alphas; test normality by
ks.test(fa, "pnorm", mean = mean(fa),
sd = sd(fa))
n <-
as.numeric(report.o[7,colnames(report.
o) == pert]) # retrieves n
o <-
as.numeric(report.o[3,colnames(report.
o) == pert]) # retrieves F's a
(observed)
exp <- round(mean(fa),0) # retrieves
mean F's a (expected)
fa.cutoff <-
as.numeric(report.exp[13,report.exp[8,
] == pert,]) # retrieves the cutoff
report.fa[r+nr,] <- c(pert, n, o, exp,
fa.cutoff, "") # adding on top of
existing rows 'nr'

}

rm(r,run,hyp.e,pert, set, fa, n, o,
exp, fa.cutoff)

# in Yule's K
run <- c(1, 7, 10, 11) # hypotheses
ids

if(length(grep("report.yk", x =
ls()))>0){print("The object report.yk
already exists, and it will not be
dumped.")} else {print("Dumping
report.yk object."); report.yk <-
data.frame(pert = vector(), n =
vector(), o = vector(), exp =
vector(), yk.cutoff = vector(), nepot
= vector(), stringsAsFactors = FALSE)}

for(r in 1:length(run)){
hyp.e <- hyp.g[run[r],] # extracts the
case
hyp <- hyp.e$id
pert <- hyp.e$pert
set <-
get(paste0("report.",hyp,".set"))
yk <- as.numeric(set[5,-1]) # vector
of Yule's Ks; test normality by
ks.test(yk, "pnorm", mean = mean(yk),
sd = sd(yk))
n <-
as.numeric(report.o[7,colnames(report.
o) == pert]) # retrieves n
o <-
as.numeric(report.o[5,colnames(report.
o) == pert]) # retrieves F's a
(observed)
exp <- round(mean(yk),3) # retrieves
mean F's a (expected)
yk.cutoff <-
as.numeric(report.exp[15,report.exp[8,
] == pert,]) # retrieves the cutoff
report.yk[r+nr,] <- c(pert, n, o, exp,
yk.cutoff, "")

}

rm(r,run,hyp.e,pert, set, yk, n, o,
exp, yk.cutoff)

rm(nr)
```

```
###################################
# Reports:

library(xtable)

# report rank 2+
xtable(report.r2[c(1,6,8,9),c(1,2,4,5,
3,6,7,8)])
```

Datasets stored electronically

Enclosed, there is a CD-ROM which contains two R workspaces. The analytical workspace ('\Analysis') is stored within the data processing workspace. The analytical workspace is very large because it contains all randomly drawn samples which have been used for estimating expected values in this dissertation. The data processed in this dissertation are also offered in a comma-separated-value format (.csv). Table 22 gives a list of .csv files stored in the '\Analysis' subfolder of the CD-ROM.

TABLE 22 List of exported datasets, file names and sources

.csv file	Description	Source of Data
attor.fof	all attorneys' first name freq., 2014	Czech Bar Association 2014
attor.fos	all attorneys' surname freq., 2014	*ibid.*
firstn.d.f	first name dummy freq. table matches firstn	This dissertation; processed from Czech Ministry of Interior 2014
firstn.dummy	first name dummy vector matches firstn	*ibid.*
judge.fof	judges' first name freq., 2014	Czech Ministry of Justice 2014
judge.fos	judges' surname freq., 2014	*ibid.*
mzv.fos	foreign office surname freq., 2014	Czech Ministry of Foreign Affairs 2014
notar.fof	notaries' first name freq., 2014	Notarial Chamber of the Czech Republic 2014
notar.fos	notaries' surname freq., 2014	*ibid.*
polit.fof	politicians' first name freq., excl. mismatch	Czech Statistical Office 1994; 1996a; 1996b; 1998a; 1998b; 1999; 2000a; 2000b; 2000c; 2002a; 2002b; 2002c; 2003a; 2003b; 2004a; 2004b; 2004c; 2004d; 2006a; 2006b; 2006c; 2007a; 2007b; 2008a; 2008b; 2009; 2010a; 2010b; 2010c; 2011; 2012a; 2012b
polit.fos	politicians' surname freq., excl. mismatch	*ibid.*
popul.d.f	surname dummy freq. table matches popul	This dissertation; processed from Czech Ministry of Interior 2013
popul.dummy	surname dummy vector matches popul	*ibid.*

These files contain the *output* of all processing captured in R protocols 'Processing Czech Population Data, Surnames' (p. 181), 'Processing Czech Population Data, First Names' (185), 'Processing Czech Elections Data' (186), 'Complementary Datasets' (196) and 'Reference Dummy Vectors' (208). The output command is printed in the 'Export to a New Workspace' protocol (209). These files constitute the *input* for all analyses captured in the protocol 'Import, Analyse, and Model' (209). These .csv files are provided here to facilitate repeated analyses. For further use please quote the source of each dataset. Before accessing these datasets please accommodate your operating system and R installation as per suggestions made in the 'Formatting, Platform and Processing Concerns' protocol (p. 181). These .csv files will have been submitted to the *Charles University* dissertation storage facility as an 'Archive.zip' file.