The New Collection

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2020

NOTES ON CONTRIBUTORS

All contributors are members of the MCR of New College at the University of Oxford. Contact details are provided at the beginning of each article.

GUIDELINES FOR SUBMISSIONS TO THE NEW COLLECTION

The New Collection is open to all disciplines, and review, research, and opinion articles are accepted for submission to the journal. All members of the MCR and those who have recently graduated are encouraged to submit.

Submissions should be sent to new.collection@new.ox.ac.uk; no hard copy submissions are accepted. Please use whatever reference style is appropriate for your discipline. Authors will have the choice of whether or not they would like their submissions considered working papers whereby readers are asked not to cite the work without the author's permission. This is to help ensure that publication in *The New Collection* does not preclude publication elsewhere.

The New Collection uses a double peer-review process for peer-reviewed pieces; articles are first reviewed by the editorial team composed of members of the MCR, and subsequently by reviewers from the SCR. The aim of the review process is to ensure that all articles best demonstrate the broad spectrum of the research currently being undertaken at New College, are accessible to a general academic audience, and are academically rigorous.

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PART II: SPOTLIGHT ON EQUALITY AND DIVERSITY

Editorial Welcome

I have great pride in introducing the fourteenth annual volume of *The New Collection*, the interdisciplinary peer-reviewed academic journal produced by the New College Middle Common Room (MCR). The journal's mission is to be a forum which showcases the variety and depth of talent in our graduate community, and I am sure you will agree that this issue emphatically achieves that goal.

The edition begins with a comprehensive review of current thinking on data protection legislation and its important implications for privacy in the digital age. We then jump back in time with a historical piece of some relevance to us all, reflecting on educational reform in the 17th Century with reference to Winchester College, a school founded in conjunction with New College by William of Wykeham. The third piece presents an intriguing speculation on the motivations of great Russian poet Pushkin in aspects of *Evgenii Onegin*. Changing mood and epoch, technically-minded readers can muse on some of the latest developments in computer science simulation and the prospects for integration of embedded computers in vehicles. The closing contribution in the first section is a thorough philosophical analysis of the notion of 'foundedness' in Rudolf Carnap's *Aufbau*.

Excitingly, this year's edition is the first to have also been open to submissions which are not subject to peer-review, in a bid to increase the journal's relevance to college life and chronicle the lived experiences of our members. This year, the college celebrated 40 years of female students at New College. The milestone provided a rich context for this new section, themed around equality and diversity with a focus on linking past with present, recognising the progress that has been made and the many battles still to be fought. We are honoured that Ruth Karras, New's first ever female MCR President, joined us to be interviewed alongside last year's incumbent, Malina Graf. Their reflections on continuity and change over time for women at Oxford is a fascinating read for anyone. This discussion is well-supported by two reflection pieces, one on the experience of being from a minority ethnic group at Oxford, and the other on physical disability in a city built on tradition. We are proud to have opened up the journal in this way, and hope that you will find this section a stimulating and thought-provoking read.

It is a tribute to the resilience and commitment of the New College community that we have been able to produce a complete issue of high quality in spite of the current uncertainty wrought by the Covid-19 pandemic, and all the barriers to normality that have followed. In this context, I am especially grateful to all contributors and reviewers for their work, which is testament to the important ability of academic enquiry to provide direction in uncertain times. My special thanks go to Lucy Fleming, Sophie Nagler and Martha Swift for their innovation and counsel throughout, without whom this issue would not have been possible. I hope that you enjoy reading this diverse collection of articles as much as I have enjoyed editing it, and look forward to next year's edition hopefully being produced in happier circumstances when college life is back to its vibrant best.

On behalf of the editorial team,

HARRY GABLE
Editor-in-Chief

Warden's Foreword

The New Collection defies Covid-19 and publishes. What a pleasure it is to contribute this Foreword.

The MCR has proven itself to be not just a resilient but also a vibrant community during the pandemic. This applies to its academic as much as its distanced social life—as this collection demonstrates.

Once more one is struck by the sheer diversity of the contributions, and also by their originality: whether it be new insights into Pushkin (via Tatiana's Love Letter in *Evgenii Onegin* [*Eugene Onegin*]) or our sister foundation, Winchester College (via the Parliamentary Visitation), a new angle on Foundedness (via Rudolf Carnap's *Aufbau*), new advice on open source intelligence (via its relationship with GDPR), or a new and better way of embedding vehicular computers (via a CAN format).

This year a new section of non-peer-reviewed papers is included, where diversity takes on a more precise form, appropriate to the 40th Anniversary of the Matriculation of Women Students. The three pieces here—on gender, ethnicity and disability—are all timely and poignant, and will be an archive for the future.

To Harry Gable, who contributed the important article on disability, and who has edited this *Collection*, and to all the contributors and reviewers, I extend my profound thanks.

MILES YOUNG
Warden of New College

Part I: Peer-Reviewed Articles

Reading the Investigators their Rights:
A review of literature on the General Data Protection Regulation and open-source intelligence gathering and analysis

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Abstract

Open-source intelligence gathering and analysis (OSINT) techniques are no longer predominantly the remit of private investigators and journalists. An estimated 80-90% of data analysed by intelligence agencies is also now derived from publicly available material. Additionally, the massive expansion of the internet and, in particular, social media platforms, have made OSINT increasingly accessible to civilians who simply want to trawl the Web for information on a specific individual, organisation or product. In May 2018, the European Union's General Data Protection Regulation (GDPR) was implemented in the UK through the new Data Protection Act, intended to secure personal data against unjustified collection, storage and exploitation. This document presents a preliminary literature review of work related to the GDPR and OSINT, which was collated as the basis for an as-yet-unpublished study evaluating the effects of the GDPR on OSINT capabilities in the UK. The literature reviewed is separated into the following six sections: 'What is OSINT?', 'What are the risks and benefits of OSINT?', 'What is the rationale for data protection legislation?', 'What are the current legislative frameworks in the UK and Europe?', 'What is the potential impact of the GDPR on OSINT?', and 'Have the views of civilian and commercial stakeholders been sought and why is this important?'. As OSINT tools and techniques are accessible to anyone, they have the unique capacity for being used to hold power to account. It is therefore important that new data protection legislation does not impede civilian OSINT capabilities.

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INTRODUCTION

The ability of modern technology to swiftly, surreptitiously and easily gather vast amounts of data has been accompanied by a myriad of data breaches, many of which have been high profile and hugely disruptive on an individual, organisational and global scale. Notable examples of breaches include: the 2012–2014 illicit access to the US Office of Personnel Management's databases, which is suspected to have exposed the background checks of more than 22 million current and former federal employees to Chinese agents [1]; and the 2013 Yahoo breach that revealed to attackers the personal information of 3 billion users [2].

To minimise the risk of such data breaches continuing to occur, emphasis has been placed on the creation of data protection legislation, intended to preserve information security and therefore defend individual privacy in an age of increasingly intrusive and pervasive technologies. It is against this backdrop that the European Union's (EU) General Data Protection Regulation (GDPR) was first proposed in 2012 [3]. The United Kingdom's (UK) 2018 Data Protection Act (DPA) virtually mirrors the GDPR and ensures legislative consistency with the rest of the EU, even in the event of Brexit [4].

In 1988, Roger Clarke coined the term "dataveillance", meaning "the systematic use of personal data systems in the investigation or monitoring of the actions or communications of one or more persons" [5]. Clarke argued that mass dataveillance was conducted by both public and private organisations and "involves a generalized suspicion that some (as yet unidentified) members of the group may be of interest" [5]. One "facilitative mechanism" by which "multifactor file analysis" (profiling of personal data) is conducted is "matching", the "expropriation and merger of data held in separate data systems" [5], such as between governmental and corporate organisations.

The GDPR was largely marketed as intending to combat dataveillance of individuals and in particular the matching that is prevalent as a result of popular social media platforms and other companies collecting user data [6]. However, in their article for the *European Data Protection Law Review*, Giurgiu and Larsen argued that "the ambition of the Regulation was to create data protection rules fit for the Digital Single Market that would alleviate problems companies face when doing business in the Union" [7]. This indicates that the GDPR focuses on privileging private corporations when standardising laws across the EU, despite the fact that companies are often the perpetrators of dataveillance and data hoarding that impinge upon individual privacy. Additionally, Giurgiu and Larsen noted that the implementation of the GDPR enhanced the role of data protection authorities as domestic and international "guardians of the respect of EU data protection law" [7]. These data pro-

tection authorities, such as the UK's Information Commissioner's Office (ICO), are ostensibly independent bodies, but may be funded or otherwise reliant on governmental support. For example, although the ICO reports to the UK Parliament, it is sponsored by the governmental Department for Digital, Culture, Media and Sport. It is therefore possible to argue that the GDPR's key beneficiaries include these already-powerful institutions: multinational corporations and often state-sponsored bodies, such as data protection authorities. That companies and such "arm's length bodies" (as the ICO is referred to in its DCMS Management Agreement [8]) gain more power or assistance through the GDPR suggests a stronger pro-company and pro-gov slant to the law than media coverage of the GDPR's motivations would infer. This was supported by Austria's comments as the only EU member state that voted against the GDPR replacing the 1995 EU Data Protection Directive. Austria highlighted that the GDPR's "legitimate interests" justification differs from the 1995 Directive by allowing data controllers to act on the claim that their interests in a given scenario supersede the confidentiality of data subjects. As a supporting reason for their rejection of the GDPR, the country argued that "the mere presence of legitimate interests of the data controller – without a requirement to weigh those interests against the data subject's confidentiality interests – cannot justify data processing" [9]. This assumed increase in protection of individuals' data and yet the inclusion of loopholes that maintain the power held by state-affiliated and corporate institutions reflects an inconsistency of prioritisation that Wachter contends is rife throughout the GDPR and, while it would benefit OSINT analysis by these entities, would likely hinder OSINT investigations that challenge their authority [10].

Ironically, efforts to secure one public good may result in infringement of another [11]; for example, the use of automated live facial recognition cameras to prevent crime in UK city centres [12]. Similarly, following the implementation of the GDPR, there has been a notable imposition of professional constraints on investigators who work with predominantly open-source intelligence (OSINT), i.e. those who analyse publicly available data. In 2013, the then Information Commissioner, Christopher Graham, spoke against the Leveson Report's recommendations for reforming the previous UK Data Protection Act in a way that would allow the Information Commissioner's Office to regulate press activities, thereby having a "chilling effect" on potential investigations [13].

While the majority of the GDPR has the potential to affect OSINT capabilities through the restriction of access to and availability of online personal data, there are two chapters that are directly relevant to OSINT investigators and may have the longer-term effect of curtailing their ability to operate as normal. Chapter 2 (Art. 5-–11) addresses accountability through the documentation of compliance with six fundamental principles that ensure that data is only gathered for explicit and legit-

imate purposes and processed lawfully, fairly, transparently, is accurate, current and held securely at all times. Chapter 5 (Art. 44—50) also enshrines legislatively that the collected data is not stored for longer than is necessary, to ensure that data processing is legal, consensual and carried out for the public good [14]. Chapter 5 is concerned with the international transfer of personal data and dictates that this information may only be shared to non-EU countries if those countries are certified as meeting GDPR standards for data protection [14]. As a large proportion of OSINT practitioners are domiciled in a different location to the subjects of their professional investigations, this may drastically restrict their ability to conduct OSINT on EU subjects. At present, many people are working remotely, but the scope of this study specifically covers the GDPR's effect on the ability to conduct UK-centric OSINT investigations.

However, due to the GDPR's potential to "incite a shift not only in the handling of personal data but in the attitude towards it as well" [15], various aspects of it have been examined at length by diverse parties to whose work and personal lives the GDPR is relevant. These aspects include: its inherent flexibility as a piece of legislation designed to be implemented across a continent [16]; the feasibility of its commitment to defending the "right to withdraw consent and the right to be forgotten" [17]; and the likelihood of its long-term success. This final feature concerns the increasing prevalence of household and wearable Internet of Things devices and their associated infringements of privacy [18]. This study aims to assess the current state of the literature related to the efficacy of legislation like the GDPR and the DPA, given the recent implementation of the GDPR and its potential impact on OSINT investigations in the UK.

METHODOLOGY

The core objective of this research is to survey the existing literature and understandings of the GDPR and OSINT investigations, including how and where they overlap. This literature review utilises diverse sources of information on open-source materials, the challenges and benefits of open-source intelligence gathering (OSINT), and the justifications for data protection legislation such as the GDPR and other European legislative frameworks. This was intended to set a foundational understanding of the existing publicly available research on OSINT and the potential implications of historically relevant regulatory measures.

The literature review and aspects of the discussion of this study and its results followed the PRISMA guidelines for systematic review, drawing from a variety of sources, including ICO reports, news articles and academic papers to identify

as many perspectives on the impact of regulation on OSINT as possible. The use of the PRISMA method allowed research using the most relevant and current literature on the GDPR, OSINT and the surveillance state. Initial literature searches used terms such as "open-source", "open-source investigations", "OSINT", "GDPR", "General Data Protection Regulation", "surveillance state", "open-source intelligence gathering and analysis" and "data protection legislation". Additional keywords, such as "dataveillance" [19], that emerged as significant during the information-gathering process were noted and used for further research across academic literature from the fields of Computer Science, Cyber Security, Political Science and Law. In total, over 50 publications were found and used to build a comprehensive profile of the topic. The questions used as sub-headings throughout the rest of this paper to organise the literature and findings of this study were derived from salient thematic groupings found during the study's literature search.

LITERATURE REVIEW

What is Open-Source Intelligence Gathering and Analysis (OSINT)?

One way in which the state and corporate interests may be held to account is using OSINT to confirm or discredit claims made by powerful actors. OSINT traditionally involved the comprehensive examination of publicly available material such as conventional mass media (e.g. television, radio, domestic and foreign press), specialised journals, conference proceedings, think tank studies, academic and governmental databases and photos, usually found in physical archives [20]. Intelligence gathering may take any number of forms, the majority of which involve collection from or processing by information systems. Intelligence gathering methods can be largely grouped into the following disciplines, which utilise a variety of sources, including the cultivation of insiders (part of HUMINT), interception of signals (SIGINT), and interrogation of geospatial images (GEOINT). The vast and growing expanse of the Internet "as an extension of the human mind" has allowed OSINT to develop into a practice that combines elements from all the aforementioned investigative specialties, thereby transcending the control of a small number of local parties or even linguistic limitations [21]. Not only is individuals' personal data now abundant on social media sites, but it is also possible to link multiple aspects of a person's work and private life solely by searching for their names. Additionally, commercial organisations expanding their role into domains that were formerly reserved for governments has meant that data that would previously have been classified is increasingly shared

publicly, for example geospatial information such as maps and other live and historic imagery products.

What are the risks and benefits of OSINT?

As there is an ongoing shift of data into the public arena, OSINT skills are useful in turning this data into actionable intelligence. However, the danger of doing so is a loss of privacy that may not be reversible. The evolution of regulations such as the GDPR signifies the widespread prioritisation of privacy, rather than facilitation of civilian investigative capabilities. The EU recognises the value of OSINT tools for law enforcement and, from 2010 to 2013, the European Commission even sponsored the 'Versatile InfoRmation Toolkit for end-Users oriented Open Sources explOitation' (VIRTUOSO) project which built "a technical framework for the integration of tools for collection, processing, analysis and communication of open source information" [22]. Fears about VIRTUOSO's compatibility with the EU's core norms and values were driven partly by concern about the privacy infringements inherent in OSINT. Therefore, part of the project's development process was an evaluation of its likely ethical and legal ramifications. The conclusion was that it is the responsibility of the developers of OSINT platforms and networks to include functionalities that maximise end-users' ability to adapt their settings to match their desired level of privacy [23]. This was intended to provide guidance for including "privacy by design" in this OSINT toolkit. Further, in 2014 military and security experts Hribar *et al.* wrote that "most of the data processed by intelligence services is based on public/open sources (speculatively, from 80 to 90%)" [24]. Both UK military and policing organisations are open about their extensive use of OSINT. Studies have been conducted into how these cases overlap in practice, concluding that the main differences relate to: policy regarding chain of custody of data collected; the extent to which third-party suppliers are contracted; willingness to utilise data from the dark web; and counterintelligence approaches [20].

Prior to the GDPR OSINT practices were accessible to almost anyone, but the strict prosecution and much heftier fines associated with GDPR noncompliance mean that smaller and less well-resourced operations are likely to struggle financially if they do not adapt to new data protection regimes. If small private OSINT investigations are lacking funds, they are also less likely to afford legal advice and support that would enable them to exploit legislative loopholes, such as effectively claiming "legitimate interests" to justify data processing to the ICO or other relevant data protection authorities. In comparison, state-affiliated, larger, international agencies, and large private corporations like social media giants that utilise OSINT are much more likely to have an advantage in terms of human, financial, legal and technological re-

sources, meaning that their OSINT investigations may not be hindered to the same extent as smaller OSINT operations. This would affect all investigators who operate without the special capabilities of state sponsorship or mogul protection, including journalists. Since a major normative problem with OSINT data mining and mapping is the inclusion of information that may not have legally been leaked into the public domain, such as insider testimonies, OSINT analysts could be prosecuted for their work. There is typically a strong governmental backlash against any journalists who would use the information, possibly accompanied by abuses of power to aid cover-ups. A prominent example of this out of fear of the consequences of intelligence leaks is President Nixon's pre-Watergate hiring of "The Plumbers", a group of "ex-CIA fixers" whose role was to find and silence the employee who was leaking information to the press [25].

A large part of OSINT is Social Media Intelligence (SOCMINT): the collection of publicly available information shared on social networking sites [26]. Although much of this data was covered under the definition of personal data given in the 1995 European Data Protection Directive, the GDPR's updated and expanded definition includes personal data that may be gleaned from profiles on modern social media sites, such as IP addresses, mobile device identifiers, geolocation and information relating to one's identity (e.g. social, cultural, physical, psychological, genetic, mental, or economic elements of an individual's life) [14]. These features were previously ungoverned but are now covered as part of the GDPR and DPA legal frameworks for regulation. At its most basic, OSINT may be seen as a "form of directed surveillance" of individuals through sites like Twitter, Facebook and Instagram, which effectively act as journals for individuals to fill with intimate details of their lives for public viewing [20]. In 2008, a UK Home Affairs Select Committee report entitled 'A Surveillance Society?' specified that surveillance "encompasses not only the use of monitoring and recording technology but also the creation and use of databases of personal information and the record of our communications in the digital age" [27]. The report stated that these databases are ubiquitous and no longer predominantly created by countries, but rather by decentralised private actors who categorise and use the information collected as a "surveillant assemblage" that automatically makes all aspects of daily life publicly visible, creating an online persona or "data double" [28]. These online spaces are structured to enable and encourage the sharing of information that can then be traded for ephemeral rewards, such as Twitter 'likes'. Indeed, Lyon framed modern dataveillance as a marriage of "computer technologies on the one hand, and consumerism on the other", arguing that "user-generated content" is the lifeblood of these practices [29]. This presents a counterpoint to Bentham's "panopticon", "the idea of a new principle of construction applicable to any sort of establishment, in which persons of any description are to be kept under inspection"

[30], where the perception of constant surveillance was intended as a punitive measure. Similarly, in the Foucauldian model of "Panopticism", which links the original conception of an enclosed surveillance system to capitalist motivations [31], subjects are not willingly complicit as they are in modern practice when divulging personal information on social media sites like Instagram.

Describing the surveillance state as a "laboratory of power" [31], Foucault's inference was later echoed by Clarke who argued that the threat of surveillance is a form of social control, moulding subjects' behaviour to make it more desirable to dominant powers. In the contemporary international system, these powers are no longer limited to states but also include commercial interests. These stakeholders are inextricably financially and socially linked, such that even speculation about regulation of aspects of industry has an impact on the career prospects of political figures globally. It is widely known that states are not solely responsible for contemporary data collection or the processing of this data into workable intelligence. However, they are still often seen as playing "a vital role in coordinating and consuming surveillance practices" of privately acquired information, and "only when made available to state intelligence agencies (possibly not always with the cooperation or knowledge of the data hosts) could deeply coercive sanctions such as imprisonment or interrogation be a consequence" [26].

In contrast, civilian OSINT has been used by individuals and public bodies to verifiably hold to account the institutions that are responsible for the construction and maintenance of a surveillance state-industrial complex by using some of the techniques and materials that have historically been used to uphold the surveillance state. Prominent examples of this are independent investigations into states' nuclear disarmament and non-proliferation commitment [32]. OSINT is also valuable for counteracting some of Clarke's stated dangers of dataveillance, both to the individual and to society, such as by challenging "inequitable application of the law" [5].

What is the rationale for data protection legislation?

Former US National Security Agency (NSA) contractor Edward Snowden's revelations in 2013 that large swathes of the world's population are under continual dataveillance by their own domestic law enforcement and intelligence agencies drastically heightened public awareness of the threats to their privacy and identity that resulted from inappropriate collection and processing of personal data [26]. One of Austria's core objections to the GDPR was that it gives "equal value" to the interests of both data controllers and data subjects, thereby justifying data processing without prioritising data subjects' confidentiality [9]. This is in contrast to its predecessor, the 1995 Data Protection Directive, Article 12 of which dictates subjects' right to

promptly and comprehensively access or block their data even during and after processing [33]. The GDPR's chapter 2 does stress consent and compliance regarding data collection, storage and processing [14], and it also affects OSINT in a way that the previous Directive could not because online resources were not so expansive in 1995. However, Wachter noted that, once processing is justified, the GDPR does not create much protection for processed data [10]. This therefore means that, since the GDPR's implementation, the increasingly prevalent use of OSINT to compile profiles on individual subjects remains largely unencumbered by law if the perpetrators are able to cite "legitimate interests". Previously, legislation such as Article 8 of the European Convention on Human Rights [34], exempted publicly available data from ordinary consent requirements, so that the onus was on data subjects to avoid sharing personal information on public platforms.

Despite the GDPR's emphasis on data subjects' consent, it would be simplistic to argue that an individual's creation, curation and maintenance of an online presence are entirely consensual decisions. Multiple aspects of contemporary social activities have been effectively interwoven with features offered by Internet platforms, such that attempting full integration into society requires agreeing to the 'Terms and Conditions' of a social networking site. Examples of this include 'closed' Facebook groups that one can only enter if their account is linked to their academic email address, or else they risk losing access to event invitations and support. In this way, meaningful participation in social life is restricted to those who are willing to experience "the daily renewal of a twenty-first century Faustian compact" [35].

There are many components to this compulsion to be dependent on online fora, not least the lack of correspondingly relevant and efficient alternatives to these platforms. Similarly, "digital connection is now a means to others' commercial ends" [35], with free and yet lucrative search engines like Google indexing and selling data to companies whose feedback subtly modifies user behaviour. Although other search engines that do not track user input exist, such as DuckDuckGo, they are inconvenient as they do not filter responses by popularity and so can cause long time delays for searches that would be swift and simple elsewhere. This effectively comprises a form of peer and institutional pressure that relies on the complexity of the 'Terms and Conditions' and the social benefits of inclusion in this online realm to make "the realities of being tracked, parsed, mined, and modified" seem vague and appealing [35]. Data protection legislation is therefore viewed as a way of mitigating the many possibilities and implications of commercial exploitation of individuals' loss of privacy and manipulation of online identity. The latter involves the generation of behavioural surplus, i.e. "personal data collected for the primary purpose of predicting and changing individual behaviours, rather than for the primary purpose of improving a service to individual users" [36].

The companies that have profited the most from these actions have disproportionately high market influence and so norms are not considered strong enough deterrents. A 2019 Australian Privacy Foundation report submitted to the Australian Competition and Consumer Commission on the dangers of surveillance capitalism argued that "the history of Google and Facebook shows that any voluntary measures will be evaded and defeated, and that the only realistic approach when dealing with these companies is legal compulsion coupled with penalties" [36]. As such, the concerns that lead to the drafting of new data protection legislation around the world affect individuals. They are also increasingly governmental, driven by states' worry that not meeting rising data protection standards will hinder international intelligence sharing and trade.

What are the current legislative frameworks in the UK and Europe relevant to OSINT?

For two decades, the UK's data protection principles were derived from its 1998 Data Protection Act, which had been intended to implement an EU Directive on data processing [37]. However, in 2018 a new Act of the same name came into effect, as a result of the UK government's desire "to support businesses in their use of data, and give consumers the confidence that their data is protected and those who misuse it will be held to account," as well as "prepar[ing] Britain for Brexit" [38], following the enactment of the EU's GDPR.

The prevalence of dataveillance and its resultant deluge of personal data catalysed the creation and implementation of the GDPR as "a modernised consumer-focused toolkit for privacy protection across Europe" [39]. It posits individual privacy infringement as a societal issue to be curtailed by curbing intelligence gathering, storage and processing capabilities. The regime applies to all organisations that conduct these activities regarding the personal data of EU residents. To establish effective regulation and data protection, the GDPR is split into eleven chapters detailing definitions, principles of accountability and specifying remedies and penalties in the event of transgression.

Due to the UK government's decision to invoke Article 50 of the Treaty on the EU and thereby withdraw the UK from the Union, provisions have been made to ensure that data protection legislation in the UK is equivalent to the regime newly in effect across the continent. The UK's determination to adhere to international standards is driven by recognition that countries observing the GDPR are bound to only share data with sources that have similarly stringent regulations. As such, the DPA is "the UK's third generation of data protection law", combining "the applied GDPR" with additional amendments that are specific to the UK [40]. It is therefore applicable to all organisations that function in the UK and process UK citizens' data. In addi-

tion to elucidating the "general functions" and "international role" of the Information Commissioner [41], the DPA includes the following changes: Adjustments to immigration data processing requirements to ensure that they match GDPR standards but also reflect the UK national context; a section that condenses EU Data Protection Directive 2016/680 relating to law enforcement agencies processing data in a "competent" and ethical fashion so that, post-Brexit, law enforcement and criminal justice agencies can collaborate by sharing data; and a requirement similar to Council of Europe Data Protection Convention 108, ensuring the compliance of British intelligence services with international data protection regulations.

Also relevant to this discussion is "Directive (EU) 2016/680 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data by competent authorities for the purposes of the prevention, investigation, detection or prosecution of criminal offences or the execution of criminal penalties, and on the free movement of such data, and repealing Council Framework Decision 2008/977/JHA", also known as the Police Data Protection Directive (PDPD) [42]. It was part of the consolidation of EU data protection rules, alongside the creation of the GDPR, to better reflect the realities of law enforcement investigations into digital crimes, particularly regarding law enforcement agencies' use of big data analytics [43]. According to the PDPD, "competent authorities may include not only public authorities such as the judicial authorities, the police or other law-enforcement authorities but also any other body or entity entrusted by Member State law to exercise public authority and public powers for the purposes of this Directive" [44]. Today, the GDPR is usually applicable instead of the PDPD, except in cases where data processing "must be carried out by a competent authority [...] for the purposes of the prevention, investigation, detection and prosecution of criminal offences or the execution of criminal penalties, including the safeguarding against and the prevention of threats to public security" [43].

Much of the PDPD echoes elements of the GDPR, with PDPD chapters 2, 3 and 5 diverging. Particularly notable is that the PDPD specifically endows these competent authorities with the ability to collect and process personal data so far as they are "not excessive in relation to the purposes for which they are processed" [44], which deviates from the GDPR's mandate that personal data be "limited to what is necessary" [14]. Additionally, Sajfert and Quintel explicitly acknowledged that the PDPD theoretically grants supervisory bodies lots of power, but that it "does not oblige the Member States to vest their national supervisory authorities with any particular corrective powers in respect of police and criminal justice authorities", thereby potentially allowing law enforcement agencies to subvert the PDPD without effective penalty [43]. The stated purposes of the PDPD are only related to law enforcement and national security, not corporate or other interests, and so data subjects' rights (e.g.

to directly access or erase the information held on them) are not enshrined in the PDPD as they are in the GDPR. Sajfert and Quintel point out that Article 11 of the PDPD prohibits automated processing that adversely and/or significantly affects data subjects, but that this does not rule out profiling by non-automated means [43]. This effectively renders non-automated OSINT investigations, including profiling, by law enforcement agencies allowable. Sajfert and Quintel also note that both the GDPR and PDPD focus on individual data subjects' rights, with the latter legislation leaving a "loophole" that diminishes data protections for groups of individuals, except for the PDPD's prohibition of processing of purely sensitive data, which is absent from the GDPR [43].

What is the potential impact of the General Data Protection Regulation (GDPR) on OSINT?

Due to the novelty of the GDPR and its current status as the most intricate and substantial data protection legislation in the world, there is little literature from which to determine the regulation's impact on OSINT capabilities. Although there are extensive publications discussing the utility of the GDPR for safeguarding and preventing the unethical use of data, there are no studies assessing whether civilian and commercial OSINT capabilities are impeded by increased regulation or if innovative techniques are already being utilised to ensure the continued availability of big data.

Rather than centring data protection conversations on the conventional Western idea of privacy as "the concept around which resistance to intensive or extreme surveillance may be mobilized", Lyon claimed that "many of today's surveillance issues are better thought of in social justice terms" [45]. In this vein, although OSINT is part of a data processing patchwork of capabilities that take advantage of the online information sharing culture, it is uniquely able to use this infrastructure against the powerful institutions that instigated such a culture. Therefore, as OSINT is newly regulated by the GDPR and DPA, it may be decreasing in efficacy and as such diminishing its potential for positive societal use. This literature review inspired me to conduct a short-term study of the effects of the GDPR and DPA on OSINT investigations in the UK, which is yet to be published.

Have the views of civilian and commercial stakeholders been sought and why is this important?

Prior to the GDPR, data protection mechanisms were only enshrined on a state-level and so were fragmented and applied inconsistently. The EU's acceptance of the GDPR signals the advent of data protection legislation not only affecting individuals and companies, but also applying to instruments of the state. In effect, this distinc-

tion means that the primary objective of the GDPR's creation was to protect the data itself, rather than to protect control over data, thereby enhancing the privacy of the individual against governments and corporations. However, there exists a tension in that the GDPR emphasises the role of national data protection authorities, independent public bodies that are nonetheless supported by a governmental department of the EU member state in which they exist [46]. As previously mentioned, the integral role of state-sponsored data protection authorities in both disseminating information about and enforcement of the GDPR arguably contributes to public perceptions of the GDPR and the DPA as tools used to legitimise traditional notions of state sovereignty and enforce the surveillance state. Considering that media coverage of the GDPR has typically emphasised its motivation as being to protect the data of those less powerful than state entities (i.e. individuals), this tension could undermine its stated purpose. Rather than OSINT remaining accessible to almost everyone, the discipline could begin to emulate the current balance of power in other spheres, in favour of government actors rather than non-state OSINT investigators.

All data yielded is used to conduct pattern of life analysis and make predictions about individuals and their choices that can be engineered to support existing power structures. This paradigm broadly acts "to identify individuals who may be worth subjecting to personal surveillance, and to constrain the group's behaviour *[sic]*" [5]. The latter purpose is significant in that it only works if subjects are acutely aware of and uncomfortable with the dataveillance. It is possible that the GDPR increased public awareness of the prevalence of mass dataveillance thereby catalysing a popular shift in attitude towards more privacy-enhancing behaviour. This would make data collection more difficult but could also signal a decline in behaviours that are considered socially inappropriate, such as "oversharing" of personal information online, thereby potentially supporting a function of the surveillance state.

CONCLUSION

This literature review is in no way a comprehensive summary of the work available on data protection regulation or OSINT tools and techniques, but rather is intended to provide a foundation for research into legislative and policy decisions that have implications for stifling civilian investigative capabilities. At present, there appears to be no published work examining the effects of the GDPR on UK-based investigations, either public or private. Following this literature review, I conducted a short-term (as yet unpublished) study into this topic and surmised that this is an area that would benefit from further research. It could lead to the creation of well-evidenced

guidelines for decision-makers that would protect both the privacy of individuals' personal data and the ability of members of the public to research and analyse the actions of governments and corporations, to maintain the balance of power and the level of accountability necessary for democracy. ✿

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"Not infected with the vermine of the times"?: Commonwealth Educational Reform and the Parliamentary Visitation of Winchester College, 1649–50

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WORKING PAPER

Abstract

Scholarly interest in educational reform in the mid-seventeenth century has largely been devoted to the Hartlib Circle and activities within the universities. By contrast, efforts of Interregnum governments to reform places of education have been underexplored. This is especially true of attempts by the English Commonwealth (1649-1653) to manage places of learning. This piece uses concepts of academic self-fashioning to explore the motivations, processes, and limits of state intervention in scholarly communities. Using a case study of the parliamentary visitation of Winchester College in 1649/50, this piece demonstrates the commitment of England's first republican government to manage places of teaching as a means to secure their secular and spiritual rule. It also explores the limitations of this reforming program, namely the handicaps produced by ecclesiastical and theological confusion and the sheer difficulty of reform due to the plural national and local identities of scholars and statesmen. Ultimately, this case study revises understandings of educational institutions in the Interregnum and argues for the conceptual utility of identity-making in the early modern world for scholars of educational reform.

Keywords: Academic Communities ● Educational Reform ● English Revolution ● Local Politics ● Rump Parliament ● Self-Fashioning ● Seventeenth Century ● Universities ● Winchester College

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I

In 1649, the newly established republican government of England ordered an investigation of Winchester College with articles of questions delivered to the warden, John Harris, accusing him of royalism and Laudianism.[3] By the standards of the time, Harris ought to have lost his position or been punished in some way. However, the visitation oversaw no changes and historical memory of it faded away, captured in brief summaries by historians of Winchester College.[4] Such brevity is typical of the historiography of government-led educational reform during the English Commonwealth (also called the Rump Parliament, 1649-53); by contrast, the literature on the largely extra-parliamentary educational reforming group around Samuel Hartlib, John Dury, and Jan Comenius is rich and voluminous.[5] Magisterial works such as Charles Webster's *The Great Instauration* have outlined how these Baconian-inspired Puritan reformers demanded a complete overhaul of the curriculum and teaching in England during the 1640s and 1650s, pursuing a utilitarian, omniscient pansophia only to be let down by a conservative Parliament more interested in removing royalist scholars. It is this negative perspective of educational reform between 1649-1653 that we challenge.

This piece shows how teaching and learning were of great importance to the English Commonwealth. Harris is an effective case study that allows us to investigate the motivations and processes underlying educational reform as well as its limitations. This is necessary as there is currently a tendency to judge the Parliament, unfairly, on the priorities of the Hartlib Circle and their aim to completely renovate institutions and curriculums. To a new and fragile government, however, such plans were anathema. The first section of this piece shows how the Commonwealth was interested in governing places of teaching for specific ends: to train a learned clergy and a new generation of gentlemen in loyalty to the Commonwealth, as well as to ensure the political supremacy of the ruling party. As this was the point of reform, it

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[3]For establishment of the visitation and charges see Winchester College Archives [hereafter WCA], 395, 396, 397, 399; CJ, vi, 200–1, 219.

[4]T.F. Kirby, *Annals of Winchester College...* (London, 1892); A.F. Leach, *A History of Winchester College* (London, 1899).

[5]The literature on this topic is extensive but the following are especially useful, R. Greaves, *The Puritan Revolution and Educational Thought, Background for Reform* (New Jersey, 1969); M. Greengrass, M. Leslie, T. Raylor (eds), *Samuel Hartlib and Universal Reformation: Studies in Intellectual Communication* (Cambridge, 1994); C. Hill, *Intellectual Origins of the English Revolution – Revisited* (Oxford, 1997), esp. 3-65, 268-81; H. Trevor-Roper, *The Crisis of the Seventeenth Century: Religion, Reformation, and Social Change* (Indianapolis, 2001), 219-272; J. Twigg, *The University of Cambridge and the English Reformation*, 1625-1688 (Cambridge, 1990), 206-233; C. Webster, *The Great Instauration: Science, Medicine and Reform, 1626-60* (New York, 1976); C. Webster (ed.), *Samuel Hartlib and the Advancement of Learning* (Cambridge, 1970), especially 1-72.

is on these terms, rather than by unfair comparisons with a vocal but still relatively un-influential group, that their efforts should be judged.

This case study of Harris not only shows the commitment to reform but also the problems such endeavours encountered. Specifically, the story of Harris is a tale of early modern self-fashioning. Identity in any age is multi-faceted, but for seventeenth-century scholars and statesmen with well-defined national and local roles on top of connections to institutions and communities, it was particularly protean and the subject of perennial reconstruction.[6] Harris survived despite terrible odds because he understood this fact and was willing to act quickly and sharply to change and emphasize aspects of his identity to suit the situation. As the second and third sections of this piece will show, he emphasized his status as a local grandee, something he shared with many of the commissioners investigating him, to draw support and plant doubt in the minds of the visitors about deposing him. He worked zealously to reinforce his regional standing as danger loomed through gift-giving, and utilized the friendship of several MPs to gain influence in Westminster. The confusion of Harris's accusers due to their split loyalties, the shrewdness of his answers in the context of the Engagement Controversy, and the religious uncertainty of the new regime reveal some of the limitations of this educational reform. However, we will show that Harris was not exonerated due to indifference; Parliament was committed to educational reform on their terms, but it was still a business complicated by contextual limitations that were exacerbated by issues of identity.

<div align="center">II</div>

In 1649 the New Model Army grandees Thomas Fairfax and Oliver Cromwell exchanged battlefields for the bowling greens of Oxford. After defeating the nearby Leveller uprisings they visited the university in triumph and were treated to sumptuous feasting and honorary doctorates. Thomas Barlow, the future Bishop of Lincoln, recorded how on one May evening they went to Magdalen Hall 'where they had good chear and badd speaches. after dinner they goe to the booleinge-Alley and Bowle.'[7] There were significant moments amidst these pleasant past-times, not least when Cromwell announced to the fellows of All Souls (where he had slept) that all 'knowe noe Com[m]onwealth would flourish without learninge, and that they [the government] (wtever the world said to the contrary) meant to' secure it.[8]

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[6]For a recent overview and further reading see, R. Kirwan (ed.), *Scholarly Self-Fashioning and Community in the Early Modern University* (London, 2016), especially Kirwan, 'Scholarly Self-Fashioning and the Cultural History of Universities,' 1-20.

[7]Bodl., MS Wood F. 35, 341v.

[8]Ibid, 341r-v.

It has been little appreciated how serious Cromwell was about this commitment. Control and reform of the places of teaching in England was of the utmost importance to the Commonwealth government. Consequently, the visitation of Winchester only makes sense when placed in this reforming context. This section shows how the Rump's involvement in educational reform was unusual for its commitment, scope, and success. The latter aspect is explicable once we revise our understandings of the motivation for this area of domestic reform. This is to challenge conceptions of a harassed Commonwealth blandly allowing places of education to meander into the 1650s.[9] Instead, the Commonwealth era was a time when England's education was brought under the boot of its government in the service of its church.

Admittedly, it was not unusual for a ruling regime in early modern England to interfere in places of learning. Higher education in this period was rapidly expanding and universities and schools were thought crucial for determining the lay and spiritual hierarchy of the kingdom, acting as the training grounds of clergy and statesmen.[10] In one respect, they functioned as finishing schools for young men taking a form of education without necessarily gaining a degree, for example in law, in order to govern their estates and serve in local government. On a spiritual level, they trained succeeding generations of ministers in conjunction with the commonly held belief that to control the English Church required policing the clergy's education. Government interference under the Tudors and Stuarts was therefore far from unusual.[11]

However, the necessity of controlling the clergy became especially prevalent during the Civil Wars. Parliament's deconstruction of the Caroline Church and subsequent attempts to create a new order made control of the clergy especially important as any changes would then need to be promulgated from the pulpit.[12] From the beginning of the Civil Wars, Parliament had stated its desire to purify England's

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[9]This is seen by how historians attribute the state of science and learning in the universities almost entirely to internal dynamics set largely before the Civil Wars began. For example, M. Feingold, *The Mathematician's Apprenticeship* (Cambridge, 1984); N. Tyacke, 'Science and Religion at Oxford before the Civil War,' in D. Pennington K. Thomas (eds), *Puritans and Revolutionaries, Essays in Seventeenth Century History Presented to Christopher Hill* (Oxford, 1978), 73-93. For a negative interpretation of the universities which follows the same premise of internal dynamics see Hill, *Intellectual Origins of the English Revolution*, 3-65, 268-81.

[10]L. Stone, 'The Educational Revolution in England, 1560-1640,' *Past and Present*, no. 28 (July, 1964), 41-80.

[11]M. Curtis, *Oxford and Cambridge in Transition, 1558-1642* (Oxford, 1959), especially 41-53.

[12]C. Cross, 'The Church in England, 1646-1660', in G. Aylmer (ed.), *The Interregnum: The Quest for Settlement, 1646-1660* (London, 1972), 99-120; A. Hughes, "The Public Profession of these Nations': the National Church in Interregnum England', in C. Durston J. Maltby (eds), *Religion in Revolutionary England* (Manchester, 2006), 93-114; J. Morrill, 'The Church in England, 1642-9', in J. Morril (ed.), *Reactions to the English Civil War, 1642-1649* (London, 1982), 89-114.

clergy through supervision of learning.[13] The zeal for this reform was shown in the thorough visitations and purges of royalist fellows in the universities. Cambridge suffered a visitation in the first half of the 1640s and thereafter was closely governed by the state; Oxford faced a similar level of involvement after the city surrendered to Parliament in 1646 with a vigorous round of expulsions in 1648.[14]

It is largely assumed that when the Rump Parliament was established in December 1648, Parliament's actions became words and that the *status quo* then reached continued. The argument runs that the republican regime was fragile and lacked a concrete church program.[15] Due to these weaknesses they did not have the time, energy, or coherency to reconstruct the educational system or a new curriculum. However, this is to forget the limited aims of parliamentary educational reform: to control places of teaching and inculcate loyalty for the government in the young men who would go on to fill pulpits or local office. The parliamentary Provost of Eton, Francis Rous, explained in 1644 that seeing the 'fayling of schollers both in schools and universityes, I thought it an especial service to ye church to find out, and encourage yong schollers' through a pedagogical role.[16] Curriculum reforms were important but not the yardstick for success or failure. Once this is accepted, understandings of educational reform can be substantially revised.

The new government was not content to leave matters as they found them and launched an ambitious program to gain complete control over the major schools and universities. This zeal was reified in the Committee for the Reformation of the Universities, established in spring 1649, and tasked with regulating the universities, Winchester, and, later, Eton.[17] This streamlining of administration was an important act, signaling a commitment to effectively visiting and controlling educational institutions. The Committee, chaired by Francis Rous, was unafraid of throwing its weight around, removing Oxford's Vice-Chancellor, Edward Reynolds, and the Professor of Divinity, Francis Cheynell, in 1650 for refusing to take the Engagement.[18] It was also given a significant budget earmarked from the sale of Dean and Chapter

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[13] CJ, ii, 121-2, 126, 167, 233; S.R. Gardiner (ed.), *Constitutional Documents of the Puritan Revolution* (Oxford, 1906), 210; Webster, *Hartlib*, 22-38.

[14] For the universities, see T. Reinhart, *The Parliamentary Visitation of Oxford University, 1646-1652* (Unpublished D.Phil. thesis, University of Oxford, 1984); J. Twigg, *The University of Cambridge and the English Revolution, 1625-1688* (Cambridge, 1990); B. Worden, 'Politics, Piety, and Learning: Cromwellian Oxford', in his *God's Instruments, Political Conduct in the England of Oliver Cromwell* (Oxford, 2012), 91-193.

[15] See for an overview, B. Worden, *The Rump Parliament, 1648-53* (Cambridge, 1973); D. Underdown, *Pride's Purge: Politics in the Puritan Revolution* (Oxford, 1971).

[16] Eton College Records [hereafter, ECR], Coll P17/2.

[17] CJ, vi, 200-1, 219.

[18] Bodl., MS J. Walker C. 8, 247v; for removal of Cheynell, St John's College (Oxford) Archive, Register III 1624-1667, 431r. He was replaced so speedily that the college (Lincoln) of his replacement, Thankful Owen, was taken by surprise. They peevishly complained to the London Committee about how

Lands and was later granted control over the Trustees for the Maintenance for Ministers.[19] This money was put to use rewarding loyal, and poor, college heads in university colleges.[20]

The government's control was not limited to universities. Efforts were soon made to bring three major schools, Winchester, Eton, and Westminster — which acted as feeders for the universities — under control. Education was perceived as a pyramid of institutions, and schools were treated as foundation stones of similar importance to their more famous cousins. This is a point forgotten by historians who have hardly looked into the major schools of this period. In September of 1649, a board of governors was named for Westminster College, replacing an existing parliamentary committee.[21] The new board largely consisted of members of the Committee for the Universities. This group, headed by John Fielder (or Feilder), Humphrey Salwey, and Luke Hodges was extremely industrious. From documents in the Westminster Abbey Library, we can calculate that they met on at least sixty-six separate occasions between April 1649 and November 1653.[22] At the same time, Eton was a model of parliamentary discipline under Francis Rous: its account books reveal that in this period it painted the Commonwealth's arms in the chapel and symbolically bought two suits of arms and weapons for the army.[23]

The visitation of Winchester was therefore part of these wider series of reforming actions. The school's sister foundation, New College, had been one of the last Oxford corporations to suffer expulsions of fellows and members in January 1649, leading to the introduction of a new master, George Marshall.[24] It had remained unsettled into late March, when the visitors of Oxford reported the need 'to proceede to the speedy setlinge' of the College in order to shore up college numbers and proceedings.[25] Thoughts naturally turned to Winchester and an order for the vis-

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'suddenly' Owen had left even 'though the statutes of the Coll[ege] allow him halfe a yeare after any preferment,' Lincoln College Archives, Register, 91r.

[19] CJ, vi, 189-190; C.H. Firth R.S. Rait (eds), *Acts and Ordinances of the Interregnum, 1642-60* (3 vols, London, 1911), ii, 81-104, 142-8, 152-5, 200-5; Lambeth Palace Library [hereafter LPL], MS 1104, 27-8.

[20] For the list of payments to Oxford colleges see, LPL, COMM 6A/2, 32, 493-504.

[21] Firth Rait, *A&O*, ii, 256-277.

[22] There has been little secondary work done on the governors or the committee which preceded it, though Julia Merritt briefly describes them in her *Westminster 1640-60: A Royal City in a Time of Revolution* (Manchester, 2013), 107-109. I am currently creating a calendar of documents relating to these bodies and the school for the years 1649-53. For some examples of their efforts, see Westminster Abbey Muniments, 32463, 42682, 42831, 42835, 43150.

[23] ECR, 62/63 [Draft Audit Book 1650-51].

[24] M. Burrows (ed.), *The Register of the Visitors of the University of Oxford, from A.D. 1647 to A.D. 1658*, Camden Society, cxxxiii (London, 1881), 231; see for New College, H. Rashdale R. Rait, *University of Oxford College Histories: New College* (London, 1901).

[25] Burrows, *Register*, 226.

itation subsequently came in May 1649. Sixteen visitors were named in August and December, mostly Hampshire MPs and dignitaries though also included were Fielder and Marshall.[26] The occasion was to take place in the Epiphany Quarter Sessions of 1649/50 in the Election Chamber of the school. The warden and fellows were to appear with the statutes and records of the corporation and give 'particular' answers to the questions of the visitors, including a list of charges against Harris.[27] As this section has shown, the ordering of this event was in keeping with the wave of intervention launched by a committed reforming government in 1649 keen to secure loyalty to church and state.

<div align="center">III</div>

The actions and reputation of Winchester's head, John Harris, ought to have led to his dismissal; that he retained his place is only explicable when we uncover the role of his school in the local community, the status of county grandee it afforded him, and his ability to exploit this part of his identity. As this section demonstrates, Harris was in real danger from the visitation. However, within Hampshire he was not just a member of England's pedagogical community but a well-connected figure. Similarly, Parliament's commissioners were not just state servants but the warden's neighbors and friends. The common local identity of Harris and the visitors was crucial in protecting him from danger and providing him with a voice in Westminster. Even though the desire to reform existed, Harris's exoneration shows how complicated such visitations could be in practice as a canny operator, like the warden, emphasized the most useful parts of his multifaceted identity. The warden needed all his wits since the list of charges against him was extensive and damaging. It also came at a dangerous time to be considered an opponent of the republican regime. In winter 1649/50, the threat of a Scottish invasion in support of Charles II was growing while the English government, obsessed with security, tried to impose a promise of loyalty on the people of England, the Engagement.[28]

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[26]For the commissioners see, Burrows, *Register*, 231; CJ, vi, 200-1, 219; Kirby, *Annals*, 336-7; WCA, 397.

[27]WCA, 396, 399.

[28]There are a vast number of texts on the Engagement Controversy. I found the following especially helpful, G. Burgess, 'Usurpation, Obligation and Obedience in the Thought of the Engagement Controversy', *HJ*, 29.3 (Sep., 1986), 515-536; Q. Skinner, 'Conquest and Consent: Thomas Hobbes and the Engagement Controversy', in G. Aylmer (ed.), *The Interregnum: The Quest for Settlement, 1646-1660* (London, 1972), 79-98; A. Tubb, 'The Engagement Controversy: a Victory for the English Republic,' *Historical Research*, 89.243 (February, 2016), 42-61; E. Vallance. 'Oaths, Casuistry, and Equivocation: Anglican Responses to the Engagement Controversy,' *HJ*, 44.1 (2001), 59-77; J. M. Wallace, 'The Engagement controversy 1649-16 52: an annotated list of pamphlets,' *Bulletin of the New York Public Library*, lxviii (1964), 584-405, Worden, *Rump Parliament*, 211-237.

The accusations were therefore threatening. He was charged with range of crimes that were said to demonstrate adherence to the king; loyalty to the Arminian Church policies of Archbishop Laud; and a long-standing hatred of the Parliament.[29] The danger Harris was in may be evidenced by a comparison with the fate of John Greaves, the Savilian Professor of Astronomy at Oxford.[30] Greaves was hauled before the visitors of Oxford in July 1649 for financially aiding the king during the wars, adhering to a faulty religion as demonstrated by warm familiarity with the Queen's Catholic confessors, and generally opposing Parliament. Greaves had been expelled, and the similar nature of the accusations exhibited against Harris highlights the danger the warden faced. The charges against Winchester's head ranged from the broad — 'desiring the destruction of those who were risen up against the King'; 'he hath served only the times' — to the precise: 'it hath been credibly reported that he would not suffer the good gentlewoman his wife to keep a good book.'[31] Many of the charges referenced the warden's own words in sermons, some dating back to the 1630s, such as the charge that he had 'shortly after execution of that unjust censure in the Starre Chamber' on the Puritans Burton, Bastwick, and Prynne in 1637 'used (in his sermons) many expressions reflecting' on [i.e. affirming] the justness of their punishment. The impression is of a serious and thorough set of accusations.

The warden's reputation would have counted against him, for Harris was a notorious royalist sympathizer with strong links to Laudian Oxford. He was remembered as a man whose 'loyalty to the King' during the Civil Wars had been proved when 'he gave considerable summes of money to the King and his owne plate.'[32] According to a colourful anonymous biography written by a contemporary on the backs of the warden's letters, he eventually drove himself to an early death in his endeavours to prevent his royalist school from being 'infected with the vermine of the times.'[33] He was far from alone in his royalist sympathies. The school's headmaster, John Pottenger, was remembered by his son as often discoursing 'about the unhappy times, and lament[ing] the church's, and king's misfortune.'[34] He had taken several ejected fellows from New College into his own establishment, a dangerous game to play when the man who had ejected them, George Marshall, was part of the new visitation. An example is Thomas Grent, a relative of Harris who had been removed by the visitors of Oxford in 1648 from his New College fellowship. He was practically adopted by the warden, becoming a valued member of the warden's family and was

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[29]For the charges against Harris see WCA, 399.
[30]Burrows, *Register*, 252-3.
[31]WCA, 399.
[32]WCA, 427.
[33]WCA, 447.
[34]J. Potenger, *Private Memoirs Never Before Published of John Potenger* (London, 1841), 26.

eventually 'made Physician to the Colledge.'[35] Grent stood as witness to the warden's will, appointed one of Harris's sons as an executor of his own, and was remembered in the familial sections of the warden's sister, Phoebe, and son, John.[36] Harris had played a dangerous game, and, as the visitation was drawn up and prepared, it must have seemed that he had played it badly.

Harris's lack of punishment can only be explained when we consider the role institutions of education played within local networks of patronage and communication as well as the consequent gravitas afforded to the schoolmaster. Political classes in the counties were bound together by familial and commercial ties, and there were such connections among the mainly Hampshire-residing commissioners for the visitation.[37] Schools, like any local corporation, participated in this world and benefited from principles of community solidarity and respect.[38] An association with such an institution bestowed an important status on the schoolmaster and fellows who were already respected figures in the community, something that helps explain their ability to garner support during the visitation. Harris used his wealth to acquire a significant property in Silkstead, south of Winchester, which made him close neighbours to Richard Cromwell, and allowed them to develop a relationship warm enough for the future Lord Protector to send game to the school as a gift in 1654.[39] One of the fellows, William Wither, was connected to the influential Wither family of Manydown and Hall.[40] The paterfamilias, William Wither senior of Manydown, was an influential committee member for Parliament in Hampshire and father-in-

[35]Burrows, *Register*, 528; J. Foster (ed.), *Alumni Oxonienses*, 1500-1714 (4 vols, Oxford, 1892), ii, 604b; WCA, 424. For Grent's restoration to New College in 1660 see NCA, 9655, 43r. Sadly, he did not long enjoy his restored position: his memorial in Winchester College Chantry reveals he died in August of the following year.

[36]Hampshire Record Office [hereafter HRO], 1660 P/1 [Will of Phoebe Harris]; 1661 PC 2 [Will of Thomas Grent]; 1661 PC 4 [Will of John Harris of Silksteed]; 'Will of Dr John Harris', TNA, PROB 11/280/411.

[37]To pick one example, Sir Thomas Jervoice and Robert Wallop, acting in unison, had profited mightily from the sequestered lands of the Marquess of Winchester. See HRO, 54M98/F3; 44M69/F5/4/3; 44M69/D2/4/2-3; 44M69/E6/161-2, 169; CJ, vi, 288, 290, 294, 295, 296; SP 46/95, 168-83.

[38]They also often enjoyed patronage. For example, Winchester possessed the protection of the influential Fiennes family, themselves founder's kin, which Harris attempted to keep engaged throughout this period, WCA, 415, 429, 430 (b), 449.

[39]WCA, Bursars' Book, 1644-1671, 1653-4 [no pagination]. '[Mr] Web pro feodo afferentis ferinam a D[omino]. Cromwell.' Mr Web/ Webb was minister of Hursley (where Cromwell lived) in these years, LPL, COMM 6A/2, 589.

[40]The large Wither family was based around Deane, west of Basingstoke. There is a work on the family, R. Bigg-Wither, *Materials for a History of the Wither Family* (Winchester, 1907). The relevant wills in the HRO give a sense of the ties and wealth of the family. See, HRO, 312M87/E10/6 [Will of William Wither, Fellow of Winchester College]; 1667A/124 [Will of George Wither of Hall]; 1676B54/1 [Will of Gilbert Wither] and below.

law to Winchester College's headmaster, John Pottenger.[41] Another member of the family, George Wither of Winchester, married Nicholas Love's sister-in-law, Katherine Chester, in 1657.[42] Such was the tapestry of local relationships and interests into which a school like Winchester was woven, and from which it proved difficult for the commissioners to untangle themselves.

Harris was immunised against danger as a result of the school's value in this regional space and the local roles he and the parliament-men enacted in Hampshire. Harris was able to exploit his county standing to his advantage and was aided by several white knights, the most resplendent of whom was Nicholas Love, a Winchester MP and a commissioner on the visitation. Residing in Love – like many of his fellow commissioners – were conflicting values relating to his position as a high-flying MP and his role in Winchester society. To Harris's benefit, the latter identity often proved more valuable in a regional context than the former. Love is important in the story of Harris, remembered by John Nicholas, a scholar of Winchester during these years, as doing 'one good act, [which was] to use the great power he had here, to the protection of this Society.'[43] Love was a crucial intermediary between the various strands of life in which the school operated, acting as both a county grandee and as a national politician.[44] He was the son of a former warden, had been baptised only 100 yards from the College, and became a regicide and fervent parliamentarian. He had continued to serve under the republic, gaining a reputation as a 'constant and contumacious Rumper' sitting on multiple committees, including that for the universities, and helping to design the new mace and coins of the government.[45] However, he was a close friend of Harris and felt a filial loyalty to the school, often helping the institution to the financial detriment of his political masters. In the 1640s he had tried to help the college secure exemptions from various taxes, using his influence to lean on commissioners of the excise and coordinate action in the Commons with the representatives of Cambridge and Eton.[46]

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[41] HRO, 102A17/D1/1/1 [Will of William Wither senior]; TOP351/3/2 [Manuscript note concerning marriage of John Pottenger to Anne, daughter of William Wither]; 19M61/1605 [Order of the Commissioners of Parliament].

[42] See, Bigg-Wither, *Wither Family*, 31-35; HRO, 102A17/D/1/5 [Marriage settlement of George Wither and Katherine Chester]; 312M87/E10/7 [Will of George Wither of Winchester].

[43] Bodl., MS J. Walker C.2, 138r. The anonymous biography of the warden credits Love with the same, WCA, 445.

[44] J. Peacey, *Nicholas Love*, The History of Parliament Trust, unpublished article for the 1640-1660 section. I am grateful to the History of Parliament Trust for allowing me to see this article in draft.

[45] Anon., *The True Characters* (London, 1661), 2.

[46] WCA, 455. For Love's interventions regarding the excise see WCA, 421, 422, 455.

Love's value was as a bridge between school and state, giving Harris the information to gauge the mood of the Parliament.[47] His aid continued into the 1640s and was crucial in allowing the warden to coordinate an effective round of bribery and petitioning. As danger approached in 1649, Love wrote to Harris '[so] that your peace may be more secured for the Future I will advise you at the assizes to apply to one Msr Hill a Parliament man and a lawyer' who had spoken in favour of preserving the colleges and to offer an annuity for legal advice.[48] From the account books, we can see that Harris took this advice: in late summer 1649 and again in 1650, one Mr Hill is indeed listed as receiving money — £5-8-9 and then £5 — in legal fees.[49] In the late 1640s, schools faced increased scrutiny and potential financial problems from the sale of dean and chapter lands. Knowing who to bribe in Parliament was therefore important information. Eton College, for example, was aided by dint of their provost being a MP: in 1649, one trip to London 'to procure from the Parlient the sence of the house' cost a staggering £57-0-4, most of which presumably was spent canvassing useful MPs.[50] Evidence from Winchester's audit books suggests similarly lavish trips to Westminster in the late 1640s. Between 1646-8, the college spent roughly £2 in total on such expeditions to London; between 1649-50, the total was £27-10-3, with a further £15-3-8 for fees 'in coll. negotiis.'[51] Strong local ties could be useful on a larger stage, giving these provincial institutions a route into the Commons and allowing them to spread their influence in an effective and coordinated manner.

Harris was able to manoeuvre in the world of Parliament because of the provincial security he enjoyed, a security maintained through the tending of local relationships. This can be detailed through the sudden explosion of sweet gifts sent out by his institution.[52] Starting in 1649, the college began to send sugarloaves to judiciary figures, the first one costing £0-19-8. This was an innovation, and it instigated a trend wherein the school spent a large outlay on these offerings to local figures, including the justices. In 1650-1, a £2 sugarloaf was sent to the mayor of Winchester and two loaves, costing a combined £1.12.9, to justices. In 1651-2, the mayor, the

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[47] For similar examples of this phenomenon see, L. Bowen, "'So Much Environ'd with Ill Neighbouring Counties": Isolation and Political Connection in Civil War Pembrokeshire, 1640-9' (unpublished paper, delivered October 29, 2019, Britain in Revolution, 1637-1660 Seminar, University of Oxford); D. Scott, "Particular Businesses' in the Long Parliament: The Hull Letters, 1644-8', in C. Kyle (ed.), *Parliament, Politics, and Elections, 1604-1648* (Cambridge, 2001), 273-341.

[48] WCA, 446. This refers to Mr Roger Hill, MP for Bridport.

[49] WCA, Bursars' Book, 1644-1671, 1648-9, 1649-50.

[50] ECR, 62/10 [Audit Book 1638-1653], 1649-50. N.b. In the draft audit book [ECR, 62/61] it is erroneously listed as 57sh 4d.

[51] WCA, Bursars' Book, 1644-1671, relevant years.

[52] For this, and all figures in this paragraph, WCA, Bursars' Book, 1644-1671, relevant years.

justices, and Nicholas Love received sugarloaves with a combined cost of £4-6-0. In 1652-3, the mayor was excluded, and the outlay dropped to £3-3-0. In 1653-4, when the school seemed to be in a position of greater security, the loaves appear to have shrunk as the three sweets sent out (to the mayor and justices) came only to £2-12-0. The generosity did not end then but continued for the next few years, with the justices receiving these treats. Such gift-giving reveals the county ties the school wished to maintain and improve, complementing the bribery being utilised at the higher national level. These gifts were a conscious investment in cultivating relationships and friendships with local figures and, considering his survival, Harris may have viewed them as sweeteners well sent.

Faced with extreme danger, Harris exploited his local standing to engineer an effective round of canvassing and gift-giving in Westminster and the county. Even in a fairly straightforward government reforming initiative, the plural identities of schoolmasters and statesmen proved a complication. An acquittal was at no point certain and Harris had to exercise all his influence to survive the Commonwealth spotlight on education. As the Hampshire commissioners found their various roles conflicting with one another, Harris worked zealously to benefit from this weakness by using Love as a bridge to Westminster. His success is found both in his exoneration and the warm relationships he would enjoy with many of the commissioners in the 1650s.[53] A sign of the community's solidarity came in 1654 with subscriptions for repairing Winchester Cathedral. Here Harris, who donated £5, was joined by four of the visitors of the school in a relatively small joint initiative reliant on mutual trust.[54] Performing a group activity in a civic setting showed that the members were comfortable being associated, happy to be seen as a unit. Educational institutions such as Winchester rose and fell depending on the ability of their members to dance to the varying fiddles of nation and locality. Harris had quick feet.

IV

Harris, in his answers to the list of charges against him, showed that he was aware of the conflicting national and local identities within the visitation and carefully self-fashioned his image to satisfy both. His answers have survived in heavily revised draft

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[53] For example, in 1652 and 1653, Love would help secure books from the collection of Winchester Cathedral for the school, WCA, Bursars' Book, 1644-1671, 1654-5; W. Stephens F. Madge (eds), *Documents Relating to the History of the Cathedral Church of Winchester in the Seventeenth Century* (Winchester, 1897), 73-4.

[54] HRO, DC/E3/1/1. The visitors among the co-subscribers were Sir Thomas Jervoise, Nicholas Love, Sir Robert Reynolds, and Robert Wallop.

form and were drawn up with obvious care.[55] They reveal how he understood that the commissioners wished to hear different things in their different roles and reconstructed his image accordingly. Playing to their concerns as government servants, the warden engaged with the Commonwealth's (or, at least, those of a prominent minority within it) own ideas of *de facto* authority, stressing that he would follow whoever held power. However, this image of Heep-like servility was counterbalanced by a far more bullish self-representation as an enemy of heterodoxy, a concern in Hampshire at the time common to both commissioner and warden. Harris's answers to religious questions were frequently problematic and reveal, alongside his self-fashioning, some of the limitations in Parliament's reform, specifically the failure to create a coherent church program, which allowed him to escape punishment.

Harris's answers are explicable in the context of 1649-50, a time when the Rump struggled with security and notions of obedience. This was crystallized in, but not confined to, the Engagement Controversy, the test of loyalty the Rump imposed on the country. As the Parliament sought to justify subscription to the document, they sparked a wider debate about what type of obedience was owed by subjects to a ruling authority. A prominent defence of subscription, as developed by Commonwealth apologists such as Anthony Ascham and Francis Rous, was a *de facto justification* 'that although the change of government were believed not to be lawfull, yet it may lawfully be obeyed.'[56] Although disliked by the most ardent republicans, such thoughts proved potent. It was argued that power has its roots in God and that loyalty is therefore owed to the power inherent in authority, regardless of the holder's legitimacy. The subject was urged to consider that the Rump had gained the kingdom through conquest and that some form of government outweighed total chaos.[57] Fundamentally though, the subject was not to meddle in matters above their station: as the Rump defender John Dury wrote, 'do not take upon you to define matters whereof you are no competent judge.'[58] Such justifications sought to persuade the people of England to acknowledge and accept the government if not to warmly embrace it.

The warden played to this theory of *de factoism* in order to protect himself from criticism on many points. Much of Harris's defence counterintuitively agreed with one of the primary accusations against him: that '[h]ee hath onely serv'd the times.'[59] Harris accounted this no fault, stressing that he embraced Laudian ceremonialism not because he believed it righteous but since 'while the Canons (whereby those ceremonies are enjoyned) stood established as I thought by law; for then I thought it

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[55]WCA, 418.

[56]F. Rous, *The Lawfulness of Obeying the Present Government…* (London, 1649).

[57]See, Skinner, *Conquest and Consent*, 79-98.

[58]J. Dury, *Considerations touching the present Engagement* (London, 1649), 16.

[59]WCA, 399.

my duetie as occasione forced to declare the lawfulnes of them.'[60] The warden's answers stress that all subjects were obligated to follow the orders of those in power: for example, he claimed that his compliance in the railing of the communion table and bowing to the altar was because he was 'enioyned so to do in the Arch[bisho]ps [Laud's] visitation [in the 1630s].'[61] Harris's answers depict a world in which the origin of authority is far less important than the fact of possessing it. As the subject is forbidden to intervene in matters of governance and should suffer in silent endurance instead, the implication was that Harris would comply with the Commonwealth. He was attempting to please the visitors in their capacity as government agents and indicate his willingness to continue in his role under the new regime.

Harris was able to show a more bullish side when touching on issues that had a more immediate relationship to Hampshire. These were mainly the religious charges against him, and his answers were designed to play on the fears of his interrogators in their local capacity. The county had been rocked by a heterodox *cause célèbre* in late 1649, which occurred almost simultaneously with the Winchester visitation. William Franklin, a rope-maker from London supported by his devoted follower Mary Gadbury, had declared himself Christ near Andover and attracted followers.[62] Franklin and Gadbury were dragged before the courts in the first months of 1650. At the time, there was no blasphemy act with which to charge Franklin (he was instead imprisoned for vagrancy), and he was acting in a country rocked by religious radicalism. Heresy had grown exponentially in the 1640s as England underwent social and ecclesiastical tumult.[63] As with the Diggers and Ranters, Franklin was perceived to be both a religious and social threat. He had renounced the morality of the day, leaving his wife for the married Gadbury, who began to refer to herself as 'the spouse of Christ.'[64] It was a story that undermined the social values of early modern England, sparked fears in a nation without a settled Church, and was of immediate concern to the visitors of Winchester.

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[60]Ibid, 418.

[61]Ibid.

[62]See, A.M. Coleby, *Central Government and the Localities: Hampshire 1649-1689* (Cambridge, 1987), 56-60; H. Ellis, *Pseudochristus, A True and Faithful Relation of the Impostures acted by William Frankelin and Mary Gadbury* (London, 1650).

[63]See, J. Coffey, 'The Toleration Controversy during the English Revolution', in C. Durston J. Maltby (eds), *Religion in Revolutionary England* (Manchester, 2006), 42-68; C. Hill, *The World Turned Upside Down: Radical Ideas during the English Revolution* (Harmondsworth, 1991); J.C. Davis, 'Living with the Living God, Radical Religion and the English Revolution', in Durston Maltby, *Religion in Revolutionary England*, 19-41; A. Hughes, 'Diggers, True Levellers and the Crisis of the English Revolution', in P. Baker E. Vernon (eds), *The Agreements of the People: the Levellers and the Constitutional Crisis of the English Revolution* (Oxford, 2012), 218-238; J. Scott, *England's Troubles: Seventeenth Century Political Instability in European Context* (Cambridge, 2000).

[64]Ellis, *Pseudochristus*, 16.

The events would be thoroughly covered in the May 1650 pamphlet *Pseudochristus*, written by the Winchester minister and witness to events, Humphrey Ellis. Before publication, Ellis had witnessed the various trials and hearings and had interviewed those associated with the case. We may safely assume that Ellis was also known and favoured by many of the commissioners for Winchester. He was receiving an augmentation from the Committee for the Universities and was almost certainly in favour with the county hierarchy.[65] As he states in *Pseudochristus*, he decided to write his account 'by reason of my acquaintance...with the Justices, and with divers other persons abroad in the Country.'[66] Given that the news, hearings, and trials of Franklin and Gadbury at the Quarter Sessions in Winchester raged alongside the visitation, they must have been present in the mind of Harris's interrogators. When faced with the devil of religious innovation, often believed to have serious social implications, the hierarchy of the county would have been incentivized to protect the ruling order, which included an incorporated figure such as Harris.

Such softness would have been doubly likely given the lack of a coherent parliamentary religious program with which to compare the warden's answers. Hopes in Parliament for a unified strategy in the years following the regicide grew increasingly unlikely as a theological Babel emerged, with the Puritan mainstream splintering and fragmenting in the search for an alternative to episcopacy. Those sympathetic to the school much preferred a trusted community member to an intruding zealot who would upset the delicate balance of the region, as George Marshall had done at New College. This attitude of leniency developed due to the significant confusion over religious issues within the Parliament and in relation to fears of heresy. As a result, Harris was able to get away with giving potentially dangerous answers. We may see this in his blunt candour regarding ordination. Elaborating on the role of the clergy, Harris argued that, due to apostolic succession, 'the Church had always used imposition [of] hands upon ministers ordained.'[67] The blatant defence of ordination by the laying on of hands was extraordinary given that episcopacy had been abolished, meaning that such practices were clandestine. However, Harris could be confident of escaping punishment given, as Fincham and Taylor have elaborated in an important recent essay, the complete confusion over the issue of ordination.[68] Lacking a yardstick with which to beat him, the commissioners found they had entered the fray empty handed.

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[65] LPL, COMM 6A/2, 587.

[66] Ellis, *Pseudochristus*, 5.

[67] WCA, 418.

[68] K. Fincham S. Taylor, 'Vital Statistics: Episcopal Ordination and Ordinands in England, 1646-60,' *English Historical Review*, 126.519 (April 2011), 319-344.

Another example of Harris's boldness came in response to the charge that he supported the wearing of 'habitus clericalis.'[69] This was a serious accusation as the wearing of such garments was outlawed and often invited violence to the unfortunate garment-wearer. Francis Mansell, the ejected master of Jesus College Oxford, discovered this to his shock when he was assaulted and had his clothes torn off by soldiers when caught wearing a 'Canonicall Habit' in Glamorgan in 1651.[70] However, Harris answered cannily by defending the clerical garments as useful for retaining a 'distinction betwixt ministers and others' no matter what 'any Sectarian of this time now denied.'[71] Harris read his audience and knew that, with the spectre of the rope-making Christ prevalent in their minds, the image of a stern figure of authority and local hierarchy defending respectful behaviour and discipline would be more compelling than pedantic doubt over his problematic positions. As Harris's exoneration shows, he had crafted a potent image which also revealed the limitations of a reforming agenda lacking a clear religious credo.

<div align="center">V</div>

Later in the 1650s, Harris would dismiss the articles of investigation he had suffered as being 'grounded only on some snatches of sermo(n)s that I had formerly preached taken by ignorant men and misalleged against me.'[72] However, in unravelling how he survived his tribulations, this piece has highlighted key conclusions for historians of schools, education, and domestic reform in the English Revolution. Harris's experience helps highlight how educational reform of any kind would involve complex interactions between state, institution, and persons inhabiting a variety of roles and the consequent impact of these issues on the process of reform. The Winchester case study has illustrated how important and malleable the various identities of Harris and the commissioners were in determining the course of the visitation, and how important the nature of his school as both a local and national institution was in determining these identities.

From this case study we are able to draw conclusions about the ambitions and limits of republican domestic reform. We have seen how the Commonwealth began a large, and largely overlooked, wave of educational reform inspired by a desire to control England's clergy and population through places of teaching. It is crucial to ask what role the government perceived schools and universities as fulfilling and to judge them on their own terms; to do otherwise is to fall into the unhelpful standards of

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[69]WCA, 418.
[70]L. Jenkins, *The Life of Francis Mansell* (London, 1854), 16-20.
[71]WCA, 418.
[72]WCA, 430.

extra-parliamentary figures. The failure to create a new curriculum should not blind us to the commitment of the republican regime to this reformation. Instead, we have argued that Harris's case is illustrative of the difficulties these reformers faced due to both the complexities of protean and malleable identities in early modern England and the absence of an ecclesiastical and theological replacement for the Caroline Church.

Harris survived because he exploited and emphasized his local standing, not simply because it was a part of his role. Although the lack of a concrete program for church reform proved a handicap for the commissioners, their conflict of local and state interests was arguably more important to Harris's escape. Sympathetic MPs like Love acted as intermediaries to Westminster and it was to common ideas of locality and local order that Harris appealed, especially with the specter of William Franklin casting an unsettling shadow over the investigation. Ultimately, Harris survived because he understood the various roles he and his accusers were playing and fashioned his potent image of servile bullishness accordingly. �

Pushkin's Mystification:
Tatiana's Letter, a Translation from French?

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Abstract

The article explores the question of the existence of a foreign original for the letter of Pushkin's heroine in his poetic novel *Evgenii Onegin*. The clue to the question is implied by Pushkin himself: the narrator introduces Tatiana's letter with the claim that it was written in French, whereas in the text it maintains the same language as the rest of the poetic novel. Although scholars discovered a number of parallels between the heroine's letter and French poetry and pointed to specific texts as possible sources, the present article attempts to challenge the postulation of a French original for Tatiana's letter. Textual analysis of the heroine's letter shows that neither its style and language, nor its phraseology and vocabulary resemble a translation. The putative existence of a French original is interpreted as a deliberate mystification arising from the linguistic situation in contemporary aristocratic society, which can be described as bilingualism (for Russian aristocracy, French was the only language for literary expressions of feelings).

This article explores the reason for Pushkin's mystification, which could have been the taboo against sentimental self-revelation in Russian aristocratic society: in order not to seem ridiculously anachronistic for 19th-century aristocracy, Tatiana's letter required a putative French original. However, the study of Pushkin's correspondence shows that the revelation of deep feelings was associated in his own letters with the use of his native language, whereas French was reserved for expressing clichés of literary sentiment. The function of the poet's assertion that he had to translate Tatiana's letter from a mysterious French original could be to point to the literary nature of the heroine's feelings and to imply the impossibility of her dreams in the narrative reality of the novel.

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One of the best-known passages in Pushkin's poetry is without doubt Tatiana's letter to Onegin, which forms part of the third chapter of *Evgenii Onegin*. Tatiana's letter has been considered the finest poem in Russian literature, since the time of the publication of Pushkin's novel to the present day: the poet's contemporary, Pavel Annenkov, described it as 'marvellous poetry';[1] the journal *Severnye Zvety* for 1827 stated that its lines 'burn the pages';[2] a modern critic called it 'a Russian poem composed by a genius';[3] Vissarion Belinsky noted that 'Tatiana's letter drove mad all Russian readers', who saw in it 'the supreme exemplar of the revelation of a woman's heart'.[4]

In *Evgenii Onegin* Tatiana's letter stands isolated from the rest of the text, since it lies outside the general strophic structure of the composition.[5] The heroine's epistle deviates from the Onegin stanzaic form and consists of seventy-nine lines in iambic tetrameter with a free pattern of rhymes. The letter is unique, as it simultaneously belongs to three situational planes: 'non-narrative reality' (the narrator states that he has the letter in front of him and treasures it, 'Письмо Татьяны предо мною; / Его я свято берегу'); one character addressing another; and the contextual plane of the whole poetic novel.[6] The letter is thus perceived by the reader as 'a quotation' from Tatiana's life,[7] an action performed by the heroine, uniting the authorial intent with the intent of the character.

Although Tatiana's letter maintains the same language as the rest of the poetic novel, the narrator introduces it with the claim that it was written in French ('Итак, писала по-французски...') and that he was compelled to translate it into Russian, 'in order to preserve the honour of his homeland' ('Родной земли спасая честь, / Я должен буду, без сомненья, / Письмо Татьяны перевесть'). Pushkin's implication that a foreign source underlies the composition of the heroine's letter (inferred in 'Tatiana...sighs and, taking for herself another's joy, another's grief, whispers in a trance a letter for her dear hero, learned by heart', 'Татьяна... / Вздыхает и, себе присвоя / Чужой восторг, чужую грусть, / В забвенье шепчет наизусть / Письмо для милого героя...') is the cause of much scholarly debate. Although not all scholars believe that Tatiana's letter had a foreign original,[8]

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[1]'чудные стихи' (Набоков , В.В., С. 332).

[2]'сии стихи, можно сказать, жгут страницы' (Северная Пчела, 1827, № 124). Бочаров, С.Г., С. 72.

[3]'гениальные русские стихи', Бочаров, С.Г., С. 75.

[4]'письмо Татьяны свело с ума всех русских читателей... высочайший образец откровения женского сердца' (Белинский, В.Г., С. 73)

[5]Лотман, Ю.М., С. 227.

[6]Найндорф, М.И., С. 34.

[7]Найндорф, М.И., С. 34.

[8] 'Пушкинское письмо Татьяны – 'мифический перевод' с 'чудесного подлинника' – сердца Татьяны' (Бочаров, С.Г., С. 78-79). 'Ведь язык письма Татьяны, вопреки

the majority express no doubt as to its status as a translation: Craig Cravens calls it 'stylised and translated';[9] Caryl Emerson states that 'Tatiana's love letter to Onegin was originally in French but we only see its cooled-down Russian version';[10] Nina Dmitrieva writes that Tatiana has to write her confession letter in French (it cannot be otherwise due to social-historical reasons);[11] Vasilii Sipovsky discovered a number of parallels between Tatiana's letter and French poetry;[12] and Leonid Serzhan pointed to an elegy of Marceline Desbordes-Valmore as a possible source.[13]

The hypothesis formulated by Leonid Serzhan, that the main source of Tatiana's letter could have been an elegy published in 1819 by a minor French poetess, Marceline Desbordes-Valmore (1786–1859), is reaffirmed by Yuri Lotman, who suggests that Pushkin's interest in the French elegy could have been aroused by its poetic form combined with its female authorship: it was not overly individualised and so could be used as a prototype for a young girl's letter. Lotman argues, however, that the French elegy relies on a series of lyrical commonplaces and that Tatiana's letter could just as well be traced to a multitude of other sources.[14] The view that the letter had a French original is supported by Pushkin's close friend and lifelong correspondent, Petr Vyazemsky, who states that the poet was even planning to compose Tatiana's epistle in prose, and possibly in French, to convey the lexical peculiarities of her style.[15] Although Vyazemsky's testimony, confirmed by the majority of modern scholars, is regarded as conclusive, the present article will attempt to challenge the postulation of a French original for Tatiana's letter.

A clue to the refutation of the common assumption concerning the existence of a French original is concealed in the text of *Evgenii Onegin* itself. In characterising the style of Tatiana's letter, Pushkin first mentions two false sources of his inspiration, 'tender Parny'[16] and Baratynsky,[17] delaying the presentation of a third version of the epistle's origin, with the help of the technique of retardation: Tatiana's letter as a genuine document, which the poet translated ('Но вот / Неполный, слабый перевод, / С живой картины список бледный'), albeit 'incompletely and

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предварительным извинениям автора, – русский, непереводной. Он не предполагает стоящего за ним французского текста' (Виноградов, В.В., . 222).

[9] Cravens, C., P. 699.

[10] Emerson, C., P. 10.

[11] Дмитриева Н.Л. . 86.

[12] Сиповский, В.В., С. 19.

[13] Сержан, Л.С., С.22.

[14] Лотман, Ю.М., С. 229.

[15] Вяземский, П.А., . 23. Vyazemsky's letter is quoted from Лотман, Ю.М., С. 227.

[16] 'Я знаю: нежного Парни / Перо не в моде в наши дни'.

[17] 'Певец Пиров и грусти томной' refers to Evgenii Baratynsky (1800—1844).

feebly', and inserted into the text of his poetic novel.[18] Moreover, the narrator compares his 'translation' with Weber's opera *Der Freischütz* 'performed by the fingers of timid schoolgirls' ('Или разыгранный Фрейшиц / Перстами робких учениц'). It is difficult to take this comparison at face value: the most renowned poet of Russia could have hardly compared his own poetry, even if he pretended that it had been 'translated', with music performed by schoolgirls. The poet's evaluation of his own 'translation' of Tatiana's letter as 'an incomplete, feeble, pale copy of a vivid picture', is clearly ironic and therefore casts doubt on the existence of a French original, which, as he claims, he had so inadequately translated.

The narrator supplies another explanation for the heroine's choice of language which pertains to her poor knowledge of Russian ('Она по-русски плохо знала, / Журналов наших не читала, / И выражалась с трудом / На языке своем родном', 'She had not mastered Russian all that well, did not peruse our journals, and in her native tongue expressed her thoughts with difficulty'). This explicit statement of the narrator contradicts his own lines in chapter 5: IV about Tatiana's 'Russian soul' ('Татьяна, русская душою'), her love of Russian winter ('Любила русскую зиму'), her superstitious beliefs in 'dreams, cartomancy, the moon's fortune-telling' ('и снам, и карточным гаданьям, и предсказаниям луны'), and in her observance of ancient Russian folk customs (Chapter 5: VIII-X). The narrator's statement also conflicts with the narrative 'reality' of the poetic novel, from which it is clear that Tatiana must have had full command of at least the colloquial style of her native language since infancy. Proficiency in colloquial Russian would have been indispensable for her communication with her nurse, who could not have known any language except her native (a conversation with the nurse about her marriage precedes the scene of Tatiana's writing of the letter).[19] It is also evident from Pushkin's text that Tatiana speaks Russian with her mother, her sister and indeed the addressee of her letter (who writes his own letter to her in Russian at the end of *Evgenii Onegin*). Her life and the life of her family is pervaded by folk traditions (they love round swings, circle-dances, pancakes during Shrovetide and kvas) and customs of the Orthodox Church: twice a year they fast and prepare for Holy Communion, go to Church on Pentecost and listen to folk songs, performed between the Nativity and Theophany.[20] It is likely, therefore, that Tatiana had a complete command of the high

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[18]Cf. Лотман, Ю.М., С.230.

[19]Лотман, Ю.М., С. 228.

[20]'У них на масленице жирной / Водились русские блины; / Два раза в год они говели; / Любили круглые качели, / Подблюдны песни, хоровод; / В день Троицын, когда народ, / Зевая, слушает молебен, / Умильно на пучок зари / Они роняли слезки три; / Им квас, как воздух, был потребен'.

register of Church Slavonic through her regular participation in Church services.[21]
A girl, brought up in a Russian village among people for whom Russian would have
been the only language of daily communication, could not have found it difficult to
express herself in their and her own native language. Consequently, the contradic-
tion between the narrator's descriptions of Tatiana's life in a Russian village and his
claim that she 'had not mastered Russian all that well' has to be viewed as a conscious
literary device aimed at creating the effect of comic incongruity, which would have
been immediately appreciated by the audience.

Conflicting statements in the depiction of characters are in keeping with the po-
etics of Pushkin's novel in verse. As pointed out by scholars, 'the principle of contra-
diction' is an 'intrinsic structural element' of Pushkin's poetic work and 'manifests
itself throughout the novel on varied structural levels, including the juxtaposition
of different characteristics of heroes in different chapters and stanzas'.[22] As styl-
istic conventions, literary canons and rules are repeatedly invoked in Pushkin's po-
etic novel in order to be parodically contrasted,[23] the explicitly stated reason for the
heroine's choice of language (the narrator's obviously contradictory claim that Ta-
tiana did not know her native language) can also be perceived as the object of ironic
or parodic contradiction.

Pushkin's poetic novel contains another ironic suggestion that Tatiana's choice
of language might have been conditioned by custom: aristocratic ladies were not used
to expressing their feelings in Russian ('Доныне дамская любовь / Не изъяс-
нялася по-русски', 'until now ladies' love did not converse in Russian'[XXVI, 11-
12]). The composition of a love letter would have demanded an acquaintance with the
Russian literary style, which Tatiana evidently had not fully acquired.[24] Therefore,
Pushkin's formula 'она по-русски плохо знала' ('she had not mastered Russian
all that well') could be interpreted as implying a lack of mastery of the Russian writ-
ten register. The reader is given a clue to the interpretation of the heroine's linguistic
characterisation: Tatiana could not express in letter form all the minutest distinctions
of her feelings, for which she knew ready-made French expressions.[25]

The narrator's statement concerning the freedom with which Tatiana commanded
French reflects the peculiarities of the linguistic situation in Russian society during
Pushkin's time.[26] The poet, like most of the educated aristocracy at the start of the

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[21]Лотман, Ю.М., С. 228.

[22]Лотман, Ю.М., 1975, . 30.

[23]Woodward, J.P., 27.

[24]Лотман, Ю.М., С. 229-230.

[25]Лотман, Ю.М., С. 229-230.

[26]Кучминская, Н.Р., С. 133-141; Стрекалева, Т.В., С.177-181. Маркелова, Г.В., С.84-
89. Гордеева, Л.П., С. 49-55.

19th century, received a French upbringing: he spoke French at his parents' house; his father's library, which he had access to in his childhood, consisted exclusively of French books; the poet's first literary compositions were in French (his comedy *L'Escamoteur* imitated Molière, his poem *La Tolyade* was conceived as a parody of Voltaire's epic *La Henriade*); verses written in French constituted part of the lyric poems he composed in the Lyceum; he wrote many letters in French to N.Raevsky, P.Chaadaev, A.Kern.[27] Pushkin first read English and German literature in French translations; and it was French literature, especially Racine's tragedies, Molière's comedies, Boileau's *L'Art poétique*, Voltaire's philosophical prose, Rousseau's *Julie, ou la nouvelle Héloïse*, which constituted the foundation of the cultural tradition he absorbed.

The language of Pushkin's own correspondence can be used to shed light on the language of his heroine's epistle and consequently on the reason for the poet's mystification. A lot of Pushkin's own letters were written in French, sometimes to his friends (N. Raevsky, P. Chaadaev)[28] and sometimes even to his relatives. Since, according to contemporary etiquette in epistolary correspondence, ladies had to be addressed in French, he writes French letters to Anna Petrovna Kern (to whom he dedicated the most renowned lyrical poem 'I remember a wonderful moment', 'Я помню чудное мгновенье'), referring to her with the polite form of the pronoun 'vous'.[29] To his sister Olga, he writes an addendum to a letter addressed to his brother Lev (27 July 1822) and asks her a series of ironic clichéd questions in French (êtes-vous mariée?, êtes-vous prête à l'être?) again using the polite form 'vous'.[30] However in a letter dated to 4th December 1824, which is also addressed to his brother, he adds a short note to Olga in Russian :'Милая Оля, благодарю за письмо, ты очень мила, и я тебя очень люблю' ('Dear Olya, thank you for your letter, you are very sweet and I love you very much'), which sounds much more intimate than any of his French letters,[31] due to the tone, simplicity of language and, most importantly, his use of the informal pronoun 'ты'.

Before his marriage Pushkin wrote to his fiancée both in French and in Russian (addressing her as 'мой ангел' ['my angel'] in a letter dated 30th September 1830). When anxious about her health during a cholera breakout in Moscow, he writes to her more intimately, in Russian: 'Милостивая государыня Наталия Николаевна, я по-французски браниться не умею, так позвольте мне говорить вам по-русски, а вы, мой ангел, отвечайте мне хоть по-чухонски,

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[27]Жирмунский, В.М., С. 68.
[28]Жирмунский, В.М., С. 68.
[29]Dmitrieva N.L., P. 179.
[30]Dmitrieva N.L., P. 176.
[31]Dmitrieva N.L., P. 176.

да только отвечайте' ('My gracious Lady Natalia Nikolaevna, I cannot scold in French, so allow me to speak to you in Russian, and you, my angel, reply to me even in Finnish, but only reply', 29 October 1830). After his marriage he addressed his wife only in Russian, frequently using demotic forms and invariably employing the informal 'ты' ('My beloved little wife, my angel little wife, I have already written to you today, but my letter somehow did not turn out well', 1834).[32] Pushkin contrasts French and Russian forms of address in a letter to his wife (dated to 11th June 1834), not concealing his attitude to the former: 'Ты слишком хороша, мой ангел, чтоб пускаться в просительницы… Мой совет тебе и сестрам – быть подалее от двора: в нем толку мало… но вы, бабы, не понимаете счастия независимости и готовы закабалить себя навеки, чтобы только сказали про вас: Hier Madame une telle était décidément la plus belle et la mieux mise du bal. Прощай, Madame une telle', 'You are too good, my angel, to become a supplicant… My advice to you and your sisters is to keep further from court: there is little good in it… but you, females, do not understand the happiness of being independent and are ready to enslave yourselves forever, so that you will be spoken about: Yesterday Madame so and so was definitely the most beautiful at the ball and was dressed best of all. Bye-bye, Madame so and so'). As was pointed out by Dmitrieva, the contrast of the demotic Russian form of address 'бабы' and the French 'Madame une telle' in Pushkin's letter is more than just an attack on the use of French by high society[33] (the poet does not want his wife to put her sisters into the royal escort and expresses his intense longing to be with her). Thus, for Pushkin, Russian was clearly a language of highly personal, intimate, informal correspondence,[34] particularly with his wife. Therefore, it is not unlikely (contrary to the assertion of the narrator concerning the existence of a French original) that Pushkin would have had his heroine, Tatiana, compose her letter in her native language, particularly since it was addressed to a dearly beloved person.

Although Pushkin's biography shows that French could not be regarded as a foreign language for the Russian nobility of the 19th century, he left both poetic ('Доныне гордый наш язык / К почтовой прозе не привык', 'Unto this day our proud language is not accustomed to postal prose', XXVI, 13-14) and prose commentaries on the linguistic situation in Russia: 'our prose is still so little elaborated that even in simple correspondence we have to create turns of phrase in order to explain the most common notions, and our laziness more eagerly finds expressions in a foreign language, whose mechanical formulas are ready made and known to every-

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[32]'Женка моя милая, женка мой ангел, – я сегодня уже писал тебе, да письмо мое как-то не удалось', Dmitrieva N.L., P. 183.

[33]Dmitrieva N.L., P. 183.

[34]Dmitrieva N.L., P. 183.

body'.[35] If Pushkin's poetic commentary can be viewed as ironic, his prose commentary, which chronologically coincides with the composition of the third chapter of *Evgenii Onegin*, clearly attributes the use of a foreign language in written correspondence to laziness. Pushkin's older contemporary Nikolay Karamzin had expressed similar views: 'Let us leave it to our charming ladies of high society to maintain that the Russian language is rude and unpleasant; that *charmant* and *séduisant*, *expansion* and *vapeurs* cannot be expressed in it; and that it is not worth knowing it at all. Who would dare to prove to ladies that they are wrong? <...> Our language is expressive not only for high rhetoric, for loud and picturesque poetry, but also for tender simplicity, for the sounds of cordiality and sentiment. It is richer in harmony than French; it is more capable of expressing the tones of one's soul! Our misfortune is that we all desire to speak French and do not wish to labour at cultivating our native language. Is it not strange that we cannot express some subtleties in our conversation?'[36] Both Pushkin and Karamzin condemn linguistic laziness and reluctance to use the creative potentials of the Russian language in speech and written correspondence. The narrator in *Evgenii Onegin* also includes a harsh, ironic reference to the experience of other poets, who dedicate their verses to ladies, 'all of whom barely know the Russian language and use it with difficulty, but corrupt it so sweetly, that in their speech a foreign language turns into a native tongue' ('Не все ли, русским языком / Владея слабо и с трудом, / Его так мило искажали, / И в их устах язык чужой / Не обратился ли в родной'). Taking into account Pushkin's bitterly satirical attitude to the linguistic incompetence of his contemporaries, it is hard to believe that there was no trace of irony, parody or mystification in the poet making his favourite heroine[37] write her first and only love letter in French.

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[35] «...проза наша так еще мало обработана, что даже в простой переписке мы принуждены создавать обороты слов для изъяснения понятий самых обыкновенных; и леность наша охотнее выражается на языке чужом, коего механические формы уже давно готовы и всем известны» (Пушкин, А.С., XI, 21).

[36] 'Оставим нашим любезным светским дамам утверждать, что русской язык груб и неприятен; что charmant и séduisant, expansion и vapeurs не могут быть на нем выражены; и что, одним словом, не стоит труда знать его. Кто смеет доказывать дамам, что они ошибаются? ... Язык наш выразителен не только для высокого красноречия, для громкой, живописной поэзии, но и для нежной простоты, для звуков сердца и чувствительности. Он богатее гармониею, нежели французской, способнее для излияния души в тонах...! Беда наша, что мы все хотим говорить по-французски, и не думаем трудиться над обработыванием собственного языка; мудрено ли, что не умеем изъяснять им некоторых тонкостей в разговоре?» (Карамзин, Н.М., С. 286).

[37] The poet's attitude to his heroine has been unanimously described as highly positive by all scholars (cf. Emerson, C., P. 6-20; , O.A., C. 41-48). Dostoevsky expressed the view that Pushkin's poetic novel should have been called after the heroine, rather than after the hero (Достоевский, Ф.М., . 141). D. Clayton

The reason for Pushkin's mystification can be unveiled by his own letters in which passages directly referring to expressions of feelings were frequently written in French. The choice of a foreign language in emotional passages can be interpreted with the help of a quotation from Nina Dmitrieva: 'any sort of sentimentality seemed a ludicrous, absurd anachronism in Pushkin's milieu and way of life. Accordingly, the signs of sentimentality that are just coming into view in Pushkin's Russian letters were 'removed' there and then by the introduction of motifs of quite a different sort, so great at that time was the taboo against self-revelation. Only in letters written in French was there no fear of expressing feelings and seeming ridiculous, since sentimentality and a capacity and enthusiasm for self-confession had become firmly established through French literature in the second half of the eighteenth century'.[38] Not only was French the language of emotive epistolary prose, but also some sentimental passages in Pushkin's letters (e.g. to his future mother-in-law) were modelled on French literary texts, such as the letters from Jean-Jacques Rousseau's epistolary novel *Julie ou la Novelle Héloïse*.[39] Therefore Pushkin's mystification concerning his heroine's choice of language was determined by the subject of her letter, the expression of feelings.

The narrator continuously misleads the reader, giving an ironic introduction to his heroine's letter through lexical units stressing its 'verbal carelessness' ('слов любезную небрежность'), 'pretty prattle' ('умильный вздор)' and 'the mad converse of one's heart' ('Безумный сердца разговор'). In spite of the narrator's half-hearted apologies, Tatiana's letter stands out from the surrounding narrative by its strict composition. It consists largely of two distinctly organised parts: the first section (30 lines), ending with the words ('And a virtuous mother', 'И добродетельная мать'), expresses spontaneous individual speech and uses the polite form of the personal pronoun 'Вы' ('You'); and the second section (33 lines), starting with the words ('Another!... No, I would not have given my heart to anybody else in the world!', 'Другой!.. Нет, никому на свете / Не отдала бы сердца я!'), in which the informal personal 'ты' (thou) is used. The second section is followed by the penultimate part of the letter (12 lines), in which the stream of the heroine's emotions reaches its climax (where an informal pronoun is more appropriate), and the concluding four lines, in which the heroine faces 'reality' and switches into a formal style (employing the formal pronoun).

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suggested that the poet 'was metamorphosed into the heroine—not the hero—of his poem', 'Her acceptance at court, her brilliance, her tenderness, passion, and conviction—all these were the qualities Pushkin sought for himself' (Clayton, J.D., 1987, P. 261; Clayton, J.D., 1985, P. 57).

[38]Dmitrieva N. P. 181.

[39]Dmitrieva N. P. 181.

The first part of the letter contains no literary allusion to French sources. It begins with a set of deeply cordial opening lines, consisting of two emotive rhetorical questions, which are aimed at creating the impression of a conversation with the recipient: 'I'm writing to you – what more is there? What can I add?' ('Я к Вам пишу – чего же боле? / Что я могу еще сказать?'). The lines are simultaneously spontaneous and sincere, laconic and yet formulaic, constructed with parallel interrogative particles, 'чего' and 'что'.[40] The function of the two interrogatives is to instill a sense of urgency and desperation in the recipient, reminding Onegin that in sending this letter Tatiana is putting herself fully in his power and risking not only his contempt, but also potential social ruin.

In order to convey the complexity of her emotional state, Tatiana describes an alternative situation for the reader, in which she underlines that her epistle is written in desperation: if she had any hope of seeing Onegin at least rarely, she would not face the need to communicate with him by letter.[41] On the one hand, this imagined but possible situation makes Tatiana realise that she should not be writing her letter, whereas, on the other hand, the contextual situation is presented as so hopeless for the heroine that it compels her to put pen to paper. Thus Pushkin builds a tension in the letter between the proximity, in the first part of the letter and the contrast, in the second, of two contents—the imagined (whether possible or impossible) and the contextual. The imagined situation is contrasted with the narrative circumstances presented in the next three lines of the letter, in which Tatiana is trying to guess why Onegin does not show interest in her and her family: 'Но, говорят, вы нелюдим; / А мы... ничем мы не блестим, / Хоть рады вам и рады простодушно', 'But people say that you're a recluse; / And as for us… we have no glamour, / we're glad to welcome you, our joy is artless'. Tatiana's speech in this part of her letter abounds in colloquial expressions, such as 'нелюдим', 'ничем мы не блестим'. She naively thinks that in his village Onegin misses the glamour ('блеск') which in her perception must have surrounded him in the capital. The meaning of these lines is clarified by Pushkin himself, in his letter to Petr Vyazemsky: 'a *nelyudim* is not a misanthrope, i.e., not a person who hates people, but a person who avoids people. Onegin is a *nelyudim* in the opinion of his village neighbours; Tatiana thinks the reason for this is that in the backwoods, in the country, everything bores him, and that glamour alone might attract him. If, however, the meaning is not quite precise, there is more truth in the letter: it is the letter of a woman, and, on top of that, of a

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[40] Pomorska, K., . 62.

[41] 'Сначала я молчать хотела; / Поверьте: моего стыда / Вы не узнали б никогда, / Когда б надежду я имела / Хоть редко, хоть в неделю раз / В деревне нашей видеть вас, / Чтоб только слышать ваши речи, / Вам слово молвить, и потом / Все думать, думать об одном / И день и ночь до новой встречи'.

seventeen-year-old woman, and, on top of that, of a woman in love'.[42] As is pointed out by the poet, according to Tatiana's simultaneous presuppositions, Onegin appears to avoid his village neighbours, yet at the same time he feels bored by solitary life in the village and misses the glamour of high society. These contradictions in Tatiana's perception of the hero show the depth of her misreading of his character.

Tatiana views her situation in the general context of women's fate:[43] her reflection opens with a rhetorical question ('Why did you visit us? In the backwoods of a forgotten village I would have never known you, nor known the bitter torment?', 'Зачем вы посетили нас? / В глуши забытого селенья / Я никогда не знала б вас, /Не знала б горького мученья'). Passion makes her exaggerate her sufferings and the misery of her tragic state: she writes that she lives 'in the backwoods of a forgotten village' ('В глуши забытого селенья'), whereas, as Nabokov points out, her family must have lived 'in a country house of at least 20 rooms with extensive grounds, a park, flower and vegetable gardens, stables, cattle shed, grainfields, and so forth'.[44] Nabokov reckons that the size of the Larins' property must have been about one thousand square acres and that they could have had about two hundred souls, who lived in a village named after the estate.[45] The tone and style of this part of Tatiana's letter would seem more natural in the speech of a more mature person, perhaps the author himself, rather than that of a seventeen-year-old heroine.[46] Tatiana tries to envisage what would have been the natural order of her life had she not met Onegin, but rather encountered another man and became his loyal wife and a dutiful mother.[47] However the imaginary situation hypothesised in this part of the letter is confirmed as impossible in the second part.

In contrast to the first part of Tatiana's letter, in which her feelings are expressed calmly and reasonably (as can be seen through her use of personal pronouns: the only form of pronoun used in relation to Onegin is the polite form, 'Вы'), in the second part of the letter, the heroine is in a state close to a love trance. Her emotions pour out of her uncontrollably, as manifested in her use of the intimate form of the second

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[42] 'Дивлюсь, как письмо Тани очутилось у тебя. NB. Истолкуй это мне. Отвечаю на твою критику: Нелюдим не есть мизантроп, то есть ненавидящий людей, а убегающий от людей. Онегин нелюдим для деревенских соседей; Таня полагает причиной тому то, что в глуши, в деревне все ему скучно и что блеск один может привлечь его... если, впрочем, смысл и не совсем точен, то тем более истины в письме; письмо женщины, к тому же 17-летней, к тому же влюбленной!' (А.С. Пушкин. Письмо П.А.Вяземскому. 29 ноября 1824 г. Из Михайловского в Москву).

[43] Pomorska, K., . 63.

[44] Nabokov, V.V., Vol. 2. P. 390.

[45] Nabokov, V.V., Vol. 2. P. 390.

[46] Nabokov, V.V., Vol. 2. P. 390.

[47] Pomorska K., . 64.

person pronoun, the form most appropriate for the communication of two souls: 'ты'.[48] Nabokov sees in this switch of pronominal forms 'a device well known in French epistolary novels of the time';[49] Krystina Pomorska thinks that Tatiana follows a tradition of French love novels in which the informal pronoun appears in moments of the highest expressions of feelings.[50] However another explanation can be posited, namely that in the second part of her letter Tatiana is addressing not so much Onegin, whom she has only just met, as the imagined hero of her dreams ('В единый образ облеклись, В одном Онегине слились', 'Clothed in a single image, merged into the one Onegin'), whom she knows very well, loves and for that reason addresses so informally and passionately. The literary nature of Tatiana's feelings for her imagined lover would account for the use of the informal pronoun more than the putative influence of a French love novel.

The second part of Tatiana's letter, as previously suggested by scholars, contains a number of borrowings from French literature. Starting with Nabokov, it has become commonplace to interpret the exclamation: 'Another!... No, I would not have given my heart to anybody else in the world!' ('Другой!.. Нет, никому на свете / Не отдала бы сердца я!') as a 'rhetorical formula common in European romances' (cf. Andre Chenier in *Les Amours*, an elegy beginning with 'Reste, reste avec nous', the words: 'Un autre! Ah! Je ne puis…'; or Byron in *The Bride of Abydos*: 'To bid thee with another dwell: Another!').[51] Another cliché phrase ('This is the will of Heaven; I am yours', 'То воля неба; я твоя') is thought to go back to Jean-Jacques Rousseau's epistolary novel *Julie*, or the *New Heloise*: 'un éternel arrêt du ciel nous destina l'un pour l'autre' (part I, lettre XXVI).[52] A parallel between Tatiana's letter and Rousseau's *Julie or the New Heloise* is considered to be the most convincing since, as Nabokov noted, in both Tatiana's letter ('То воля неба; я твоя', 'This is the will of heaven, I am yours') and in Saint-Preux' s letter, the change of pronouns from 'you' ('вы') to 'thou' ('ты') takes place.[53]

However, even if the stylistic effects of the change of formal and informal pronoun in Russian and in French were similar,[54] parallels with French novels in Ta-

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[48]Pomorska, K., . 65.
[49]Nabokov, V.V., P. 392.
[50]Pomorska, K., . 65.
[51]Nabokov, V.V., P. 391.
[52]Лотман, Ю.М., С. 227.
[53]Nabokov, V.V., P. 390. Гринбаум, О.Н., .4.
[54]The stylistic effect of the change of pronoun in Russian and in French is different (Лотман, Ю.М., С. 227). In Russian the formal pronoun appeared relatively late (in the 18th century) and was used by aristocracy more commonly than in French (children addressed their parents with the polite form both in the 18th and in the 19th century). For Russian aristocracy the unmarked form was the polite formal pronoun 'Вы', while the marked form was used to address those who were socially inferior (servants).

tiana's letter could be viewed not as borrowings but as allusions or formulaic phrases, which are used by the poet with the aim of ironically stylising his letter as a woman's epistle. A number of expressions in Tatiana's letter which have parallels in French (such as 'Не отдала бы сердца я', cf. French 'donner son coeur'; 'Слова надежды', cf. French 'les mots d'espérance'; 'Души неопытной волненья / Смирив', cf. French 'apaiser'; 'Вся жизнь моя была залогом', cf. French 'gage'; Обман неопытной души', cf. French 'illusion', 'И в мыслях молвила', cf. French 'en pensée'; 'Или молитвой услаждала', cf. French 'adoucir') could have become embedded in Russian vocabulary, and therefore can hardly be viewed as borrowings at the time of Pushkin's composition of his poetic novel.[55]

The remaining section of the second part of Tatiana's letter also contains commonplace expressions found in French or, more generally, European sentimental novels.[56] Even the situations in which Tatiana imagines the object of her love are typical of European love novels: she sees Onegin in her dreams before she meets him in narrative 'reality', and she hears his voice in the depths of her soul. Nabokov writes that the lines of Tatiana's letter ('Давно…нет, это был не сон! / Ты чуть вошел, я вмиг узнала, / Вся обомлела, запылала / И в мыслях молвила: вот он!', 'A long time ago… no it was not a dream! / You had but crossed the threshold, when I saw you in an instant, / I was stunned, and was aflame / and in my mind I uttered: this is him!') suggest that she could have read Racine's *Phèdre*, in which there is a similar passage, describing the heroine's emotions[57] or that she could have seen an elegy by Marceline Desbordes-Valmore, in which an exclamation similar to her 'вот он!' is used ('j'avais dit: Le voilà!').[58] It is true that both Marceline Desbordes-Valmore's elegy and Tatiana's letter are similar in sincerity of feelings, passionate tone, forceful tenderness, warm affection and open devotion. However apart from the opening line 'J'étais a toi peut-être avant de t'avoir vu' (in Mikhail

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Thus the change of pronoun in Tatiana's letter had a more marked stylistic effect than it would have had in French.

[55] Viktor Vinogradov (C. 224-225) gives parallels from Russian poetry which show that these expressions were widely used in Pushkin's time both by his contemporaries and by the poet himself: cf. 'Смирив немирные желанья' ('Орлову', 1819); 'В залог прощенья мирный поцелуй' ('Каменный гость'); 'Желаний и надежд томительный обман' ('Погасло дневное светило', 1820).

[56] 'Вся жизнь моя была залогом / Свиданья верного с тобой; / Я знаю, ты мне послан Богом,/ До гроба ты хранитель мой…'; 'Ты в сновиденьях мне являлся, / Незримый, ты мне был уж мил, / Твой чудный взгляд меня томил, / В душе твой голос раздавался'.

[57] 'Je le vis, je rougis, je pâlis à sa vue; / Un trouble s'éleva dans mon âme éperdue; / Mes yeux ne voyaient plus, / Je ne pouvais parler; / Je sentis tout mon corps et transir et brûler…' (Racine 'Phèdre' I, iii). Nabokov, V.V., P. 392.

[58] Nabokov, V.V., P. 392.

Lozinsky's excellent translation: 'Я, не видав тебя, уже была твоя. . . ')[59] and the exclamation 'Le voilà!', there are no other similarities between Tatiana's letter and the French elegy.

Another parallel, hitherto overlooked by scholars, can be added from Virgil's *Aeneid*, which Pushkin undoubtedly studied at the Tsarskoe Selo Lycée (cf. in Onegin's characteristics 'да помнил, пусть не без греха из Энеиды два стиха', 'he recalled two lines of the *Aeneid*, albeit not without a fault'). In the *Aeneid* similarly emotive speech (e.g. metaphoric expressions conveying the notion of burning in descriptions of female love: 'Вся обомлела, запылала') is used in 'Est mollis *flamma* medullas / interea, et tacitum vivit sub pectore volnus' (*Aeneid* 4.68-69), 'Meanwhile her delicate marrow / *is aflame*, and a silent wound lives beneath her breast'; 'At regina gravi iamdudum saucia cura / volnus alit venis, et *caeco carpitur igni*. / Multa viri virtus animo, multusque recursat / gentis honos: haerent infixi pectore voltus / verbaque, nec placidam membris dat cura quietem' (*Aeneid* 4. 1-5), 'But the queen, long since wounded by a weighty *love*, / feeds the wound with her blood, *seized by secret fire*. / The courage of the hero often comes back to her mind, and the nobility / of his race: his features and his words cling fixed to her heart, / and love will not grant peaceful rest to her body.' The metaphor of fire (on one occasion consuming specifically, the marrow, 'marrow burning', 162), is adopted by Shakespeare in *Venus and Adonis*, 'He burns with bashful shame: she with her tears / Doth quench the maiden **burning** of his cheeks' (69-70). This poem was popular from publication onwards and subsequently appeared in all major collected works, so it is more than likely Pushkin encountered it, possibly in a French translation, and used it in his stylisation of a female epistolary style. Therefore, there is no need to trace Tatiana's letter to a specific French original, as similar expressions of unrequited woman's love can be found very widely elsewhere in the world literature, starting from Classical antiquity.

A conventionality in expressing feelings characterizes the rest of the second part of Tatiana's letter, in which she imagines hearing Onegin's voice when she performs gestures of good will, helping people or praying. As has been noted by scholars, Tatiana 'idealises (or completely fantasises) Onegin by projecting onto him her sentimental heroes'.[60] In doing so, she completely misunderstands Onegin's character, 'not content with turning this very Byronic young man into a Werther, a St Preux, or some other virtuous – hence old-fashioned – hero of sentimental reading, her imagination has, in its more exalted moments, gone a step further: it has confected

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[59] Деборд-Вальмор, М., Элегия: («Я, не видав тебя, уже была твоя...»). Пер. М. Лозинского. С. 641.

[60] Cravens, C., P. 699.

an ethical muse divinely appointed to instil noble thoughts and inspire charitable deeds'.[61] Imagining Onegin as an angel, whose presence she felt all her life, prompts in her a suspicion that he might be something opposite.[62] Tatiana explicitly asks Onegin whether he is her Guardian Angel or an evil seducer in the following lines of her letter. In asking Onegin this question, Tatiana imposes the poetics of love novels onto the narrative 'reality': in her mind she sees Onegin in terms of opposite literary types represented by Richardson as Grandisson (an ideal guardian) or Lovelace (a quasi demonic seducer).[63] If Onegin is a guardian angel, then Tatiana's life will be happy and idyllic, but if he is a seducer, then according to the poetics of 18th century love novels she is doomed to misfortune and death.[64]

Tatiana's literary reading of Onegin's character ('Блистая взорами, Евгений / Стоит подобно грозной тени…', 'Evgenii stands, with flashing eyes, like a fearsome shadow', (3, XLI) is shared by Lensky, who also views Onegin in terms of either/or categories of an angel or seducer (Он мыслит: 'Буду ей спаситель. / Не потерплю, чтоб развратитель / Огнем и вздохов и похвал / Младое сердце искушал…', 'He thinks: 'I will be her saviour / I will not suffer some seducer / to tempt her youthful heart/ with the fire of sighs and praise', 6, XV).[65] The narrator, however, does not share Lensky's or Tatiana's understanding of Onegin's character[66] and does not intend the reader to idealise or demonise him either. He directly states that Onegin does not resemble positive characters from 18th century novels and is certainly not like Grandisson ('Но наш герой, кто б ни был он, / Уж верно был не Грандисон', 'but our hero, whoever he may be / is certainly no Grandison', 3, X). As has been stated by scholars, 'the basis of Pushkin's approach lies in the rejection of all forms of literariness'.[67] In this respect he makes no distinction between Classicism and Romanticism, contrasting them with 'the poetry of reality' which emerges from the dichotomy between the 'literary' and the 'lifelike'.[68] Therefore any literary interpretation of Onegin's character is immediately refuted or ironically treated in the context of Pushkin's poetic novel. The narrator states that Onegin has no intention of seducing Tatiana, so the degree of his demonic threat does not correspond to the poetics of love novels and turns out to be exaggerated by

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[61] Gregg, R.A. P. 498.

[62] Pomorska, K., . 64.

[63] Tomashevsky analyses the 'demonic' aspect of Onegin's character and traces a connection between him and the hero of Pushkin's poem Demon (Томашевский, Б.В., . 548-554). Following Tomashevsky, Richard Cregg also calls Onegin 'demonic' (P. 502).

[64] Лотман, Ю.М., . 230.

[65] Лотман, Ю.М., . 230.

[66] Лотман, Ю.М., . 230.

[67] Лотман, Ю.М., 1975. . 65.

[68] Лотман, Ю.М., 1975. . 65.

Tatiana[69] ('Вы согласитесь, мой читатель, / Что очень мило поступил / С печальной Таней наш приятель; / Не в первый раз он тут явил / Души прямое благородство'…, 'You will agree with me, my reader, / that our friend dealt very kindly / with our poor Tatiana; / and this was not the first time he showed / the forthright noble nature of his soul', 4, XVIII). In fact, Onegin does not show any interest in Tatiana, as she herself noticed, when in the calmer state in which she wrote the first part of her letter.

Literary associations are equally inappropriate for Tatiana, who imagined herself a heroine of her favourite writers ('воображаясь героиней своих возлюбленных творцов', 'imagining herself as the heroine of her favourite writers') and models her love on literary figures such as Clarissa, Julia and Delphine ('Кларисы, Юлии, Дельфины'). As the narrator ironically observes, Tatiana appropriates their feelings ('чужой восторг, чужую грусть', 'another's joy, another's grief') making them her own, although there is little similarity between Tatiana's situation and the tragic fate of the three heroines who are brought to death by their love. The heroine of Germaine de Staël's epistolary novel *Delphine* cannot belong to Léonce, whom she loves, because he is engaged to Matilde; the heroine of Rousseau's epistolary novel *Julie ou La Nouvelle Héloïse* loves Saint-Preux but is married to M. de Wolmar; Richardson's Clarissa is drugged and raped by Lovelace. Nothing similar happens to Tatiana, as Onegin respects her chastity and innocence. However her mindset cannot be dismissed as disingenuous and shallow because, as Yuri Lotman argues, for a Romantic consciousness the only reality was the revelation of feelings through literary models, which did not preclude the Romantics from love, suffering and death, despite imagining themselves ('воображаясь') as Werthers or Brutuses.[70] No matter how many literary commonplaces Tatiana's letter contains, they do not detract from the sincerity of her feelings.

The penultimate part, consisting of twelve lines, bears no resemblance to foreign literary sources. Tatiana's imagination contaminates both imaginary and 'real' representations of the hero. The 'real' Onegin is addressed with the help of the informal pronoun 'ты' and is invited to imagine and understand her state: 'Но так и быть! Судьбу мою / Отныне я тебе вручаю, / Перед тобою слезы лью, / Твоей защиты умоляю…', 'so be it, from this moment on I give my fate unto you / before you I shed tears, / I beg for your protection'. In symmetry with the first part she again exaggerates her suffering, this time stressing her solitude: 'Вообрази: я здесь одна, / Никто меня не понимает, / Рассудок мой изнемогает, / И молча гибнуть я должна', 'Imagine: I am alone here, / no one can understand

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[69]Лотман, Ю.М., . 231.
[70]Лотман Ю.М., С. 230.

me, / my reason falters, / In silence I must perish'. Tatiana claims she is suffering in solitude, although she is surrounded by her loving family: her parents and her sister. It is in the penultimate part that Tatiana at last formulates the main aim of her letter: 'Я жду тебя: единым взором / Надежды сердца оживи / Иль сон тяжелый перерви, / Увы, заслуженный укором!', 'I wait for you: with a single glance give life to my heart's hopes / or break my heavy sleep / with a rebuke, alas, well-earned!' She has outlined her own situation, mostly imaginary, and thus gives Onegin an idea of what is going on in her soul. Onegin is now invited to become a participant in the situation she has described.

The four lines, concluding the letter, recall the theme of the introduction. Tatiana returns from the situation painted by her imagination, in which Onegin was a close and possibly loving person ('Проникнул тихо к изголовью? Не ты ль, с отрадой и любовью, Слова надежды мне шепнул?', 'Was it you who made your way in silence to the head of my bed? Was it not you, who whispered words of hope with joy and love?'), to the narrative 'reality', in which he is a distant stranger, and she immediately realises the risks involved in writing the letter. The return to 'reality' is signalled by a return of the polite form 'вы':[71] 'Кончаю! Страшно перечесть... / Стыдом и страхом замираю... / Но мне порукой ваша честь, / И смело ей себя вверяю...', 'I reached the end! I dread to reread this... I falter with fear and shame... / but your honour is my pledge, / and bravely I entrust myself to it' Tatiana is afraid to re-read her letter because this is the first time in her life she has allowed herself such an uncontrolled outburst of emotion.[72] It is this emotional outburst, pointed out by Onegin's 'учитесь властвовать собою!', 'learn to control yourself!', which makes Tatiana follow his advice to the end of her life.[73]

Tatiana's letter is addressed both to an internal character (Onegin) and to an external addressee (the reader),[74] however their reactions are different: the reader (in correspondence with authorial intention) feels sympathy for the feelings expressed in Tatiana's letter, but Onegin reacts to her letter in a negative way: he does not share the reader's admiration for Tatiana and responds with an invective. In sending her letter to Onegin, Tatiana behaves in accordance with the literary norms of a heroine of an 18th-century love novel, but not in adherence to the norms of Russian aristocratic circles of the 19th century, in which her behaviour would have been unthinkable.[75] The fact that she initiates correspondence with a virtually unknown person,

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[71] Pomorska K., . 64.

[72] Pomorska K., . 65.

[73] Pomorska K., . 65.

[74] The concept of both an internal and an external addressee, originating in Hesiod's *Works and Days*, was analysed by Allan, W., P. 34.

[75] Лотман Ю.М., . 229.

without the knowledge of her parents, and declares her love for him, puts her actions completely outside the norms of propriety.[76] Tatiana's attitude to life, which she sees through the prism of love novels, might seem naïve and is ironically treated by the narrator, yet her transgression of the rules of social behaviour is pardoned and rendered with sympathy by Pushkin on account of the purity of her passionate feelings.[77]

The poet's assertion that he had to translate Tatiana's letter from some mysterious French original points to the literary nature of the heroine's feelings and precipitates the impossibility of her dreams in the narrative reality of the novel. The existence of a French original can be interpreted as a deliberate mystification arising from the linguistic situation in contemporary aristocratic society, which can be described as bilingualism. For Russian aristocracy French was the only language of expressing feelings, therefore the reason for Pushkin's mystification is obvious: in order not to seem ridiculous, Tatiana's letter required a putative French original. However the expression of deep true feelings was associated in Pushkin's own letters with the use of his native language, whereas clichés of sentiment were often expressed through French. The analysis of the text of Tatiana's letter, conducted in the present article, has shown that neither its style and language, nor its phraseology and vocabulary resemble a translation. Out of the complexities of the linguistic situation in contemporary Russia a unique epistolary model exploring the intricacies and depths of a young girl's 'soul' was born, as Karazmin had hoped, in the Russian language, made by its greatest poet 'richer in harmony than French'. ✾

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[76] Лотман Ю.М., . 230.

[77] Лотман Ю.М., . 231. A 'shade of irony' in Pushkin's treatment of Tatiana in chapter 3 was noted by C.Cravens, P. 698. For a study of Pushkin's 'romantic irony' see Milan, V., P. 250-266 and Struc R.S., P. 241-249. Elements of irony and literary parody in *Evgenii Onegin* are adduced by Little, T.E., Pp. 19-28, whose article provoked controversial response, i.e. Dvinin Vs.I. P. 85-6.

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Rapidly Integrating Vehicle Computers Using Simulation

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Abstract

Millions of vehicles rely on embedded computers to function. Integrating these computers is a complicated process, more so as different manufacturers try to work together. We develop the CAN Simulation Format (CSF), publishable by these manufacturers. A designer can use this CSF to mix and match ECU configurations, simulating CAN traffic for each on the fly. This lets the designer test every configuration without access to prototypes of every other computer. We implement this simulation on hobbyist hardware, allowing us to test and develop with realistic CAN traffic. As different computers are updated, this technology enables the system maintainer to test different permutations of installed firmware versions, without modifying the actual computers.

1. INTRODUCTION

Millions of vehicles rely on embedded computers to operate. These computers often have limited resources, with specialized hardware for upgrading and connecting to them. A complicated supply chain, inherent to the multitude of manufacturers, results in a series of problems for both the system designer, and each manufacturer.

A core problem for any component developer is integration testing. There needs to be testing whenever any embedded component upgrades firmware, but for systems with loose configurations each of the embedded devices could be on any firmware version. To solve this, a developer needs to test against all permutations of major firmware versions for complete test coverage. For modern vehicles this is a pipe

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dream. Testing against one configuration is complicated, much less systems in varying patch states.

Currently developers queue for access to a software integration lab, or real vehicle. More advanced groups may take a capture of the CAN Bus and replay it with their ECU connected to simulate real traffic, but they would need to do this for every possible configuration, or guess at pruning the data. In applications with a limited supply, such as military systems, getting any level of access is incredibly difficult.

To solve this problem we propose a standardized configuration document called the CAN Simulation Format (CSF), which all ECUs publish so that anyone can simulate their traffic. We make this feasible for existing systems by automatically converting captured CAN traffic into this format for each ECU on the network. Using the CSF a developer can simply decide on which ECUs they would like on the system, and generate simulated traffic specific to that configuration. Using a 90 minute data capture we produce the CSF, generate CAN messages, and transmit them in real time across a CAN interface.

We will open with a brief background on CAN how a CAN Bus functions in Section 2. This is followed by an analysis of different dynamic testing techniques, and different ways to generate our CSF in Section 3. We then describe our testbed, experiment and results in Sections 4, 5 ,6, before providing future work and concluding in Sections 7 and 8.

2. BACKGROUND

Since the 1980s, automobiles rely on a physical standard known as the Controller Area Network (CAN) [1]. Now, embedded computers known as Electronic Control Units (ECUs) control the vehicle. These computers must share data and receive commands, so they are all connected to the CAN network, broadcasting messages.

As vehicles get more complex to satisfy demands for safety, predictive maintenance, and other functionalities, the number of ECUs speaking also increases. Modern industrial standards such as J1939 [2] limit that number to 30 ECUs. Each ECU transmits any number of message IDs, with the possibility of two ECUs transmitting the same ID. This ID is 29 bits. During these 29 bits any number of ECUs may attempt to speak. However, in CAN 0 is considered the dominant bit, meaning any ECU trying to transmit a 1 while reading a 0 over the bus line will stop transmitting. This bit level arbitration process is a key feature of CAN, ensuring higher priority messages are transmitted in a timely manner instead of a straight queue.
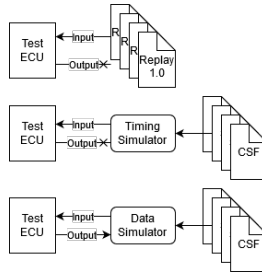
Figure 1: *This figure depicts differences between each method of CAN dynamic testing.*

3. DYNAMIC TESTING WITH CAN TRAFFIC

We identify three ways of doing dynamic testing with CAN Traffic:

- Replaying Traffic

- Simulating Traffic based on ECU timing: messages transmit at known time intervals based on documentation

- Simulating Traffic based on CAN data: the data going over the bus, such as RPM, modifies what simulated data should be sent

A simplified diagram of the different approaches can be seen in Figure 1. Replaying traffic is the simplest option, and provides realistic data inputs for the testing ECU, but the replay will not respond to data output by our ECU. Simulating traffic based on pure timing data has a similar problem. Data parameters can be specific for testing, but pure timing is a naive approach. The core difference is that capturing replays, with details on the ECU configuration, is difficult. We would need a replay for every possible system configuration to accurately reflect bus traffic, this approach does not scale. If we assume we have a CSF to read, timing based simulations provide more flexible input testing for our ECU. With vague requirements being a reality of any engineering task, being able to test several ECU configurations greatly reduces turn around time.

The third level of testing concerns a high fidelity simulation of CAN traffic, where the rest of the network modifies their messages in response to the output of our ECU. Hard coding this for one system is simple, but the nature of ECU configurations makes this complex to do dynamically. For example, an Engine Control Module (ECM) may send just engine data, brake and engine data, or a number of other auxillary data points. One ECU could handle everything, but the system configuration could call for a separate brake controller. This level of fidelity requires tying each

data parameter to another. However, many of these data parameters change based off internal logic, not the data broadcast by another ECU. Identifying these parameter dependencies is perhaps possible, but prone to errors without reverse engineering the firmware of each ECU, or having data directly from the manufacturer. Given this, we focus on the second option, with the intent to upgrade to the third as more data is available.

3.1 CAN Simulation Format

For each source address seen in a data capture we identify the message ID and corresponding average interval between messages, destination address, and priority; these features represent all of the data we need to craft the arbitration ID of a CAN packet. We prepend the ECU name to each source address. If we assume industrial standards such as J1939 we can automatically parse this data by sending a request to with data 0x00EE00 to identify the manufacturer, while using the standardized functions for source address numbers to determine the purpose (e.g., Engine, Brakes, Transmission). This data is sufficient for emulating bus controller message prioritization while evaluating the test ECU's ability to read and react to normal message flow from the CAN Bus.

If we do not have a data capture we have a two options. If we have temporary physical access to a system we can extract the firmware, performing static analysis to extract the messages it sends. For consumer CAN this would be impractical, as the purpose of each message ID are non-standardized. For industrial standards like J1939, we could look for the 1892 provided message IDs. But perceiving anything beyond the sent IDs would take a great deal of time, requiring the manual reverse engineering of each data parameter. Extracting only message IDs implies we do not have any design requirements pertaining to what data is sent over the bus.

Our second option assumes we have design requirements. If we only know the messages we are expected to read, and the messages we are expected to send across the bus, we can still recreate the CSF. We know the relevant arbitration ID fields, can test a frequent, moderate, and delayed timing interval, and can randomize each parameter in the data field. If each developer did this, then combined their CSFs, we would generate a full system simulation.

As existing systems develop a backlog of CSFs, additions and upgrades to that system can rely on them for development. Meanwhile the system maintainer can ensure different permutations of ECU firmware don't result in bugs. Normally each ECU would be attached to the analog components for a software integration lab. Instead our simulator, powered by CSFs, could connect to every analog component.
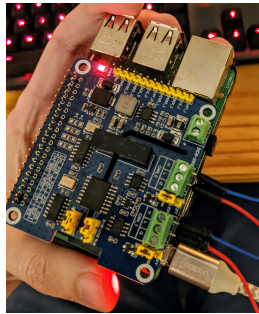
Figure 2: *Raspberry Pi 3 testbed with Waveshare 2-CH CAN FD HAT. Both CAN channels are connected to each other to detect transmitted messages over the CAN interface.*

This allows for quickly changing between ECUs without modifying any real hardware, applying DevOps techniques to embedded system development.

3.2 Emulating a CAN Bus

To make the ordering of messages realistic, we must emulate the collision avoidance done by multiple ECUs, despite being one device transmitting. To do so efficiently we use an event manager to enqueue messages as their average timing approaches. The queue is a priority queue based on a minheap, as it provides O(log N) time complexity for our important operations: appending messages, and extracting the minimum message. Our CAN message object uses an overwritten less than operator, such that the minheap uses the arbitration ID like a normal CAN collision avoidance system [3]. A test ECU connected to our CAN network will use the normal arbitration process. From the physical layer this will look like two ECUs communicating, towards the application layer the packets will appear the same.

4. METHODOLOGY

We extracted our CSF from 90 minutes of truck data using a Python script. To test our generated CAN messages we used a 2 channel CAN hat on a Raspberry Pi. We transmitted our generated CAN messages across channel 0, monitoring channel 1 to analyze our simulated traffic. A picture of this test bed can be seen in Figure 2.

5. EXPERIMENT

To evaluate the accuracy of our data we compare the timing interval of each message against that of the original data capture. If all of the same message IDs are visible across the network, at a rate frequent enough to prevent data starvation by the test ECU, we believe the CSF can be extended to any permutation of ECU configurations for testing and development against representative CAN data.

6. RESULTS

We observed a similar distribution of message timing between our 90 minute data capture and simulation. However, the simulation was unable to account for messages with timing intervals that changed with the data going over the bus. An example being a message varying the transmission rate with the speed of the engine. As long as the test ECU is able to process all simulated messages at the fastest transmission speed possible, usually set at 10ms [3], the test ECU will be adequately tested for input handling.

7. FUTURE WORK

Easier testing leads to greater software quality assurance. We achieve this with a relatively simple simulation now, but can do more with a responsive, data based solution. The benefits to testing the full system are obvious. Instead we focus on the cyber security elements for automotive security systems.

If high fidelity CAN traffic can be simulated, is it possible to distinguish between simulated traffic and real car traffic in real time? Without this capability an attacker can feed fake CAN data to any patch-based security solutions. By continuously confirming the CAN data is real, future work could prevent dynamic testing, and tampering of automotive security systems by attackers. This has potential auxiliary benefits for research that relies on data coming from a real vehicle. Spoofing insurance data, or location data is more difficult if it has the assurance of coming from a real vehicle.

Simulating the entire software integration lab means our simulator is capable of acting as the computer for any device attached to the CAN Bus. This lets us act as a redundant device. This enables system recovery post an intrusion prevention system being activated, or for any ECU faults, without the cost of installing another engine block.

8. CONCLUSION

Testing each configuration of the ECUs that control modern vehicles is difficult. To counter this problem we propose a standardized file format, published by each manufacturer containing all elements of the arbitration ID, a distribution of any message timings, and initial setup information. Until manufacturers publish this standardized file, defenders extract the relevant fields from a packet capture of an existing vehicle. However, capturing this data does not scale for complex systems which update frequently, or have multiple ECU configurations.

We demonstrate the ability to extract this information from an existing capture, and create a simulation of traffic based on the created CSF. This simulation ignored data dependencies, but otherwise matched timing distributions, while simulating the message arbitration process of multiple ECUs speaking over each other. As we gain more data to create more CSFs we can simulate more traffic. When we encode how different data fields change into our format, we will simulate the entire system, simplifying application layer testing. ✿

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A Defence of the Notion of 'Foundedness' in Carnap's Aufbau

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Abstract

In *Der logische Aufbau der Welt*, first published in 1928, Carnap aims to rationally reconstruct all objects of cognition by logico-definitional means. As a result, he intends to obtain a fully objective framework in which scientific discourse can take place. This is made possible by the novel method of 'purely structural definite description' of all scientifically relevant objects, which is first introduced in the Aufbau. Key to the attainment of this goal is the notion of 'foundedness', which Carnap presents as a new basic notion of logic, in order to establish a link between the purely conventional world of logical and mathematical knowledge and the empirical world of knowledge of scientific objects. This idea experienced major criticism by Friedman (1999a,b) since he considers it to lead to the demolition of the boundary between those two worlds. In this essay, we want to defend foundedness against Friedman's critique by arguing that its introduction is necessary within Carnap's logicist world of thought to deal with a more fundamental problem: the demarcation of the empirical parts of the Aufbau. In the last section, we will give an outlook on the actual cause for the failure of the Aufbau, the lack of a principle to determine the truth of the instances of the basic relation in the Aufbau, and we will show how this can contribute to the explanation of Carnap's future philosophical development and retrospective self-evaluation. This essay serves as a dense informal sketch for a later extensive formal treatment of this reading of foundedness and focuses on its implications for the interpretation of Carnap's post-Aufbau development.

Keywords: foundedness ● Carnap ● Aufbau ● Vienna Circle ● structural description ● definite description ● verificationism

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> *[The Vienna Circle] assumed that there was a certain rock bottom of knowledge of the immediately given, which was indubitable. Every other kind of knowledge was supported by this basis and therefore likewise decidable with certainty. This was the picture which I had given in the* Logischer Aufbau.
>
> Carnap (1963, p. 57)

> *[S]uch a phenomenalist-foundationalist conception is hardly in evidence in the text of the* Aufbau *itself*.
>
> Friedman (1999b, p. 145)

The structure of this essay

Why is Rudolf Carnap's late self-evaluation of his first monograph *The Logical Construction of the World*[1] ('Der logische Aufbau der Welt') so much at odds with his original text? Is it due to psychological peer pressure in the Vienna Circle, as Michael Friedman (1999b) suggests? This essay will argue that both the success and the eventual failure of the notion of 'foundedness' will be the key to a purely philosophical explanation of Carnap's verificationist turn.

To build our argument, we will begin by reconstructing the main argument of the Aufbau. In section 1 of this essay, we will thus first semi-formally reconstruct Carnap's investigation of the form of scientific sentences, and we will show how this contributes to Carnap's notion of objectivity under a neo-Kantian reading of the Aufbau. Second, we will briefly outline the basic elements of the constitutional theory, which is presented in the Aufbau, including an investigation of the sources of the empirical and the analytic components of it. Based on that, the elimination procedure of the basic relation of the constitutional theory, including the introduction and elucidation of the notion of 'foundedness', will be reconstructed. After that, we will present the critique in Friedman (1999a) of the demolished boundaries between analytic and empirical knowledge.

Section 2 is dedicated to the status of logic and mathematics in the Aufbau. First, the logicist notions which can be found in the Aufbau will be extracted. Second, we will explain Carnap's differentiation between logical value and epistemic value. After this, the reconstructive part of this essay will be finished, and we will merge the lines of thought presented above in our main argument in section 3. Here, we start off by presenting the three conditions that a constitutional theory must satisfy so that it does not collapse into triviality, against Carnap's logicist backdrop. From there, we

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[1]The English terms 'construction' (the term closer to English language use) and 'constitution' (the term closer to the original and better fitting Carnap's aim) are used interchangeably in this essay, both referring to Carnap's 'Konstitution'.

will show that the first condition, the absence of a purely conventional truth at any point of the constitution, is necessarily satisfied before we show how the introduction of foundedness is an ideal response to the concerns raised by the second condition.

In section 4, we will present indicators in favour of the thesis that the third criterion established in section 3.1 is not met in the Aufbau and that this fact leads to its failure. Eventually, we will give an outlook on how this thesis can explain Carnap's future philosophical development as well as how it can—unlike Friedman (1999b, chapter IV)—provide a philosophical explanation for the apparent self-contradiction in Carnap's autobiography.

1 THE NOTION OF 'FOUNDEDNESS' IN THE AUFBAU

1.1 OBJECTIVITY BY STRUCTURAL DEFINITE DESCRIPTION

1.1.1 Purely structural scientific statements

What is the form of scientific statements, according to Carnap's Aufbau, first published in 1928 and here referred to as Carnap (1998)? In Carnap (1998, §§10-16) several distinctions and semi-formal definitions are introduced, which we want to reconstruct briefly:

1. A *relational description* ('Beziehungsbeschreibung') of an object A relative to a domain D is the set of all relations between A and other objects in D. Relational descriptions do not contain the set of the properties of A (cf. §10).

2. A *structural description* ('Strukturbeschreibung') of an object A relative to a domain D is a relational description that only contains the formal properties of each element of the relational description. Structural descriptions do not contain the relational descriptions themselves (cf. §11).
   There are two ways to give a complete structural description: first, by giving its *unlabelled graph* ('(nicht mit Gliedernamen versehene[]) Pfeilfigur'); second, by giving a list of all pairs of items in D which satisfy the relation, but in which all items of the list are labelled by terms that only make sense within the list (such as randomly chosen numbers), for all relevant relations. This list is called a *number pair list* ('Nummernpaarliste').

3. A scientific statement makes *sense* only if the meaning of all names of the objects it contains can be given.

4. The *meaning* of a name of an object can be given either by an *ostension* ('Aufweisung'), meaning, 'pointing at it, making it perceivable', or by a *definite description* ('Kennzeichnung').

5. A *definite description* gives exactly the number of descriptive properties of the object in question such that it can be uniquely determined, relative to its domain. Carnap emphasises here that those properties cannot be found a priori but only by utilising the domain, meaning that there must be at least one object in the domain that satisfies the descriptive properties (cf. §13).

6. A *structural definite description* is a definite description which gives the descriptive properties in the form of a structural description of an object in question, relative to its domain.

7. By

    (a) the hypothesis that there is only one domain for scientific statements as presented in §4, and

    (b) the hypothesis that purely structural definite descriptions are possible within the domain of scientific statements (cf. §15),

    Carnap concludes that every scientifically meaningful statement can be transformed into a structural one, which only consists of structural definite descriptions. It is important to keep in mind here that the truth of both hypotheses, (a) and (b), depend on the successful construction of a constitutional system, as Carnap admits. The fulfilment of this task is attempted by him in §§106-156.[2]

1.1.2 Objective scientific language

What is the use of purely structural definite descriptions then? In other words: for what reason should we choose them over ostensions to give our scientific sentences meaning? Ostensions are dependent on the individual perception of material objects. But this is subjective in nature. Since science strives for objectivity, it is imperative not to depend on one single epistemic subject's perception but to use data from a plurality of epistemic subjects; specifically, what they agree upon. Here, the structural definite descriptions come into play: if one single purely structural relational network, in which every object of the domain can be accommodated by the use of

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[2]We are aware that these definitions partly reoccur in a more formal manner later in the Aufbau. In particular, the precise definition of structure can be found in §34. Nevertheless, this semi-formal account should be sufficient for our present purposes.

purely structural definite descriptions, is used by all epistemic subjects at once, it can serve as the conceptual framework in which inter-subjective scientific communication can take place. The structural definite description for every object, again, depends on the agreement of observational data given by different epistemic subjects (cf. Carnap, 1998, §16). In other terms, scientists can communicate with one another and compare their results, meaning the same objects, by restricting themselves to speaking about formal properties of the relations of the objects they observe, although their qualitative perception may diverge significantly. The identity of objects would in this objective scientific language, which the constitutional theory[3] of the Aufbau aims for, be restricted to having an isomorphic relational structure within the network.

1.1.3 The neo-Kantian interpretation of the Aufbau

This notion of objectivity in the Aufbau has first been emphasised by the so-called neo-Kantian interpreters of the Aufbau, such as Sauer (1985) and, mostly, Friedman (1999a). These authors bring Carnap's pursuit of objectivity in line with his neo-Kantian heritage, rooted in the Southwest school and the Marburg school. This is seen as an opposition to the earlier Aufbau interpreters, who tend to emphasise the Russellian and empiricist influence on Carnap's Aufbau (cf. Pincock, 2009, pp. 956-959). In this essay, we largely agree with the neo-Kantian interpretation of the Aufbau as offered by Michael Friedman, on which our critique will be based. Nonetheless, we will not investigate this distinction any further for our present purposes.

1.2 THE CONSTITUTIONAL THEORY IN THE AUFBAU

1.2.1 Methodical solipsism

In §§106-156 of the Aufbau, the actual construction of a constitutional system takes place. In his preceding investigations, Carnap identifies two possible domains in which a constitutional system can be based: first, the physicalistic domain, as described by what he calls 'thing-language'; second, the psychic domain, which can either be restricted to the content of one's own consciousness ('eigenpsychische Basis') or include the contents of other people's consciousness as well ('allgemeinpsychische Basis'). Although Carnap sees the advantages of a 'physicalistic' basis, he bases

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[3]The term 'constitutional/constructional theory' can either refer to an actual system such as the one which is presented in the Aufbau or to the discipline of studying such systems.

the constitutional system presented in the Aufbau on the content of one's own consciousness. This is for the reason that an individual-psychic basis seems to reflect the order of epistemic primacy ('erkenntnismäßige Primarität'), which is the logical order of cognition: the cognition of some objects is a necessary condition of—and thus epistemically prior to—the cognition of others, which is in turn epistemically prior to the cognition of different entities, and so forth. He refers to this purely methodical decision of the basis of his constructional system as methodical solipsism ('methodischer Solipsismus') (Carnap, 1998, §§54-60).

1.2.2 The empirical basic relation and analytic level forms

Carnap's constitution has two main components, one empirical and one analytic. The empirical component is what is known as the basic relation ('Grundbeziehung'), the recollection of similarity ('Ähnlichkeitserinnerung'), between two elementary experiences, which are elements of the content of the (fixed and highlighted but not specifically named) epistemic subject's[4] consciousness. These are the basic elements of the constitution and cannot be analysed themselves although they can be ascribed components by the synthetic method of quasi-analysis[5] (cf. Carnap, 1998, §§61-83; §108-109). The analytic component is the constitution of all other epistemologically, or scientifically, relevant objects in a purely logical manner from the basic relation by means of definition. The underlying logic Carnap exploits in the Aufbau is a type-theoretic logic such as that developed by Russell and Whitehead. Carnap determines two relation-theoretical entities as the two primitive constituents of the chain of extensional definitions, in which his constitutional theory consists: classes and relations, known as level forms of the constitution ('Stufenformen') (cf. Carnap, 1998, §§27-42; §106).

1.2.3 The layout of the constitution

What is constituted in the Aufbau? What objects are epistemologically—i.e., for him, scientifically—relevant for Carnap? Three levels ('Stufen') of objects are dealt with in the exemplary constitution in the Aufbau: first, Carnap starts by defining all objects

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[4]Here also referred to as 'one'.

[5]The methodology of quasi-analysis (see Carnap, 1998, §71) plays a key role in Carnap's system. It allows us to determine the quasi-components of the states of consciousness, which are primitives of the construction and, hence, unanalysable, can be subject to analysis. The basic idea is that some (quasi-)entities are defined in terms of equivalence relations amongst others. Quasi-analysis is closely akin to Frege's 'logical abstraction' (cf. Frege, 1884, §62). For a detailed discussion see Richardson (1998, pp. 51-64) and Goodman (2012, ch. 5).

that are cognised by one's own consciousness (cf. Carnap, 1998, §§108-121). Particularly important in this part of the constitution is §119, which is dedicated to the detailed demonstration of the reduction of every scientific statement to a statement about the basic relation, using the example of the statement about three-dimensionality of the colour body (cf. also Carnap, 1998, §153). This first part is the only part of the constitution that is carried out in full logico-mathematical rigour. Later parts are limited to rough battle plans for carrying out the constitution. So is the second part, where Carnap constitutes physical objects as dealt with in the thing-language[6] such as space, visual objects, one's own body, or other people (cf. Carnap, 1998, §§123-138). The upper levels of the constitution are objects of other people's consciousness (cf. Carnap, 1998, §§139-149) and, finally, mental objects, the subject of the humanities, by their mental manifestations and in line with the constitution of their physical documentations (cf. Carnap, 1998, §§150-151). From here, Carnap hints at the constitutions of other kinds of objects, for which he names values as an example (cf. Carnap, 1998, §152).

1.3 THE ELIMINATION OF THE BASIC RELATION

1.3.1 Objectivisation by elimination

At this point in the Aufbau, before Carnap starts discussing the philosophical implications of his constitutional results in book V, Carnap completes the circle in terms of his prior investigations on objective scientific statements, as dealt with before in that essay: so far, he has only given a structural definite description in logical-relation theoretical terms based on the empirical relation of recollection of similarity. But, as we have seen before, an objective conceptual space for science to operate in requires reduction to definite descriptions that are purely structural and, thus, do not contain ostensible content. This means that Carnap needs to eliminate the basic relation. He attempts to show that this is possible in §§153-155 and we want to reconstruct this elimination process below.

1.3.2 The elimination procedure

Initially, Carnap identifies two requirements the elimination has to meet.

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[6]The language using a materialistic domain and, hence, accepting the existence of everyday objects. The thing-language is also the language standardly employed in the empirical sciences (cf. Carnap, 1998, §52).

Structural description of the basic relation   First, since the choice of the basic relation is not precisely determined before constructing a constitutional system,[7] there is the opportunity to choose a different one. As the introduction of a different basic relation causes all other objects in the constitutional system to be changed into statements about it rather than the original basic relation, the properties of the objects within the new constitutional network, the form of which is relative to the new basic relation, would also shift accordingly. This means that the properties of the objects relative to the constitutional theory are bound to the basic relation and, conversely, that the basic relation can be described definitely by the properties of the objects of a constitutional theory within such. This is only limited by the choice of objects, used for that reason: the objects have to be at a sufficiently high level of the constitution, i.e. the formulae, constituting the objects relative to the constitutional theory must be of sufficiently high complexity (cf. Carnap, 1998, §153).

Foundedness   The second requirement is what Carnap calls foundedness ('Fundiertheit') of the relation on which the first restriction is applied. When defining this restriction, Carnap seems to pull off a trick by calling it an undefinable notion. This means that it can neither be defined within our framework nor can it be a purely logical concept. Carnap suggests a solution to this problem by introducing the notion of foundedness as a logical term. We will skip this problem for the moment, and we will return to it later. Although Carnap does not offer a definition of the notion, he elucidates it: a relation is founded if it can be experienced. Thus, although the statements, derivable from a constitutional theory, change if its basic relation is replaced by another, the empirical content of those statements (all of them combined) does not (cf. Carnap, 1998, §154). In §155 Carnap carries the procedure of eliminating the basic relation by imposing the two restrictions, mentioned above, using the statement on the three-dimensionality of the colour body as the high-level sentence required to meet the first restriction.[8]

1.4 FRIEDMAN'S CRITIQUE OF FOUNDEDNESS

Carnap' consideration of foundedness as a primitive logico-mathematical term, is the major bone of contention in Friedman (1999a, chapter III). Here, Friedman identi-

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[7]Carnap himself considers several different bases with different basic relations, as mentioned above.

[8]More precisely, any use of recollection-of-similarity is reduced to quantification over founded relations which satisfy the correct empirical constraints. We want to thank an anonymous reviewer for this nice phrasing.

fies the notion of foundedness with the possibility of the second option for breathing meaning into a statement other than structural definite descriptions: the possibility of ostensions. Indeed, this seems to be a contradiction of Carnap's original constitutional programme at first glance. In §13 of the Aufbau Carnap clearly states that the following construction will show the possibility of a purely structural constitutional system that is obtained not a priori but in a constructive way. For Friedman, this amounts to a fundamental problem:

If we succeed in disengaging objective meaning and knowledge from ostension and lodge them instead in logical form or structure, then we run the risk of divorcing objective meaning and knowledge from any relation to experience or the empirical world at all. We run the risk, that is, of erasing the distinction between empirical knowledge and logico-mathematical knowledge. (Friedman, 1999a, p. 103)

Although we can follow this analysis by Friedman, we do not agree with his assessment. For us, this is not a desperate attempt by Carnap to solve his constitutional project but rather a reasonable solution within the world of thought of the Aufbau. However, we will argue that Carnap was justified to move on after the Aufbau towards a verificationist programme and we will try to explain that development, based on our analysis.

2 LOGIC AND MATHEMATICS IN THE AUFBAU

2.1 LOGICISM IN THE AUFBAU

Pivotal for the deliberations to come will be a closer look at what Carnap says about the epistemic value of logic in the Aufbau. We are aware that Carnap's logicism is an extraordinarily broad topic. That is why we will limit ourselves to excerpts from his remarks on this topic in the Aufbau. What seems to leap to the eye first is §107, where Carnap wants to constitute logic and mathematics within the constitutional theory. For the underlying logic ('Logistik'; outdated term)) he clearly references Russell's and Whitehead's 'Principia Mathematica'. Insight into Carnap's thought at the time of the Aufbau might be given by the following passage:

[D]ie   logischen   und   mathematischen   Gegenstände

[s i n d]   n i c h t   e i g e n t l i c h e   G e g e n s t ä n d e   *im Sinne der Realgegenstände (der Objekte der Realwissenschaften) [...].*   *D i e   L o g i k (e i n s c h l . [s i c] d e r M a t h e m a t i k) b e s t e h t   n u r   a u s   k o n v e n - t i o n e l l e n   F e s t s e t z u n g e n* *über den Gebrauch von Zeichen u n d   a u s   T a u - t o l o g i e n   auf Grund dieser Festsetzungen.* (Carnap, 1998, §107, letter spacing as in the original)[9]

Here, we can see that Carnap considered logic and mathematics to be based on symbolic representations of mere conventions of a tautological nature, a variant of logicism (cf. Tennant, 2017). What is important to mention is the emphasis on logico-mathematical objects as non-actual objects, opposed to the actual objects of the factual sciences. Friedman (1999b, p. 126), following Lotze, identifies the meaning of the former term with objective, timeless validity ('Gültigkeit'); the latter term is identified with existence. This again hints at Carnap's neo-Kantian heritage, as Friedman points out, since the actual objects, factual science ('Realwissenschaft', in Carnapian terms) deals with, are 'made possible' (Friedman, 1999b, p. 126) by the non-actual. This is because the latter is thought of as 'governing our thought' (ibid.). Hence, logic and mathematics are independent of the coincidences of the actual world ('Unabhängig von den Zufälligkeiten der wirklichen Welt' (Carnap, 1998, p. XVIII)), as he puts it later in his German introduction to the second edition of the Aufbau. Building on that, we want to take a closer look at the even more insightful §§50-51 in the following.

2.2 LOGICAL VALUE AND EPISTEMIC VALUE

In §50 and §51, Carnap introduces the distinction between the epistemic value ('Erkenntniswert') of a statement and its logical value ('logischer Wert'). The former is given as the sense according to the imagination of the statement in question. The latter term refers to its truth value. By executing the programme of constitutional theory, one reduces statements about the objects we are concerned with by means of constitutional, i.e., explicit, definitions,[10] only containing the basic relation. This means

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[9]English translation (Carnap, 1937, §107, emphasis as in the original): 'It is important to notice that the logical and mathematical objects are not actually objects in the sense of real objects (objects of the empirical sciences). *Logic (including mathematics) consists solely of conventions* concerning the use of symbols, *and of tautologies* based on these conventions.'

[10]We are aware that Carnap actually considers several different types of definitions in the Aufbau (cf. Carnap, 1998, §38-39), including the infamous definitions-in-use. We also know that this has been an

that both statement functions ('Aussagefunktionen'), the one before and the one after the reduction, are equal in extension. The transformation process could potentially lead to an epistemically meaningful statement being transformed into a mere triviality if only the logical value is preserved. So, as Carnap puts it, constitutional translations are weaker than language translations since the former merely preserves logical value; but the latter preserves epistemic value in addition to that.

3 AVOIDANCE OF TRIVIALISATION: A DEFENCE OF FOUNDEDNESS

We hold that these paragraphs, §§50-51, are key to settling Friedman's doubts about the notion of foundedness. Carnap was very much aware—as we have just seen—that the constitutional project could run the risk of turning epistemologically meaningful statements into trivialities, even before introducing the notion of foundedness. Since logico-mathematical truths are considered to be conventionally true and constitutional theory is only worried about preserving logical value, it needs only a true (empirical) statement to be put into the constitutional-definitional reduction machinery to possibly make it trivial.

3.1 THREE CONDITIONS

To avoid such trivialisation, one must employ three conditions:

1. First, at no step of the constitutional system must there be a statement that is true merely by logico-mathematical (for us: conventional) means.

2. Second, we must ensure that our basic relation is itself empirical.

3. Third, we must be able to determine all instances of the basic relation in the constitutional system as true.

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apple of discord in the literature: Coffa (1991, p. 221-222), and the response in Friedman (1999a, p. 98). We will stick to Carnap's own definition in §51 which holds explicit definitions to be substitution rules.

3.2 NO CONVENTIONAL TRUTH IN CARNAP'S CONSTITUTIONAL SYSTEM

3.2.1 No necessity

How does Carnap ensure these conditions are met? Logic and mathematics are, as mentioned above, constituted before the actual constitutional system. In fact, logic and mathematics are not constituted at all, as constituting an object means its reduction to the basic relation by means of logic. But logic is conventionally true; it does not require empirical input for its justification; mathematics, on the other hand, is reducible to logic. That is, why logic is constitutionally, i.e. logico-epistemically, prior to the actual constitutional system.[11] One needs logic to constitute the constitutional system, but no element of the constitutional system is necessary to define logic. Vice versa, we do not need to define basic concepts of logic within our constitutional system, although logic is necessary for its construction since it was already there in the first place. This means that it is not necessary to construct a logically true statement in Carnap's constitutional system at any stage; still, is it possible?

3.2.2 No possibility

The specific form of the constitutional system is defined by the statements about its objects. These are fixed by the scientific indicators (sufficient, temporarily preceding conditions) of the (empirical) basic states of affairs underlying the objects in question (cf. Carnap, 1998, §49). All relational descriptions taken from those and all structural descriptions, in turn, abstracted from the relational ones are ultimately based on the indicators of the empirical states of affairs. Thus, structural descriptions over the domain of scientifically relevant objects do always contain empirical content. Since some structural descriptions, namely those which are sufficient to describe all scientific concepts definitely, are the constituents of Carnapian constructional system, this contains empirical content in any statement at any level of the constitution. As we see, it is impossible to have a logically true statement at any step of the constitution.[12]

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[11]This priority is also mirrored in the paragraph structure of the Aufbau.

[12]As an anonymous reviewer urged us to clarify, 'system' here does not refer to Carnap's entire language but to the unlabelled graph network, based on the basic relation. Although Carnap makes use of tautologies when constructing the constitutional network, all tautologies are already available to him prior to the constitution, including those containing empirical objects, as we argued in 3.2.1.

3.2.3 Empirical content and definite description

This is also related to the first criterion Carnap imposes on the elimination proced-
ure of the basic relation in §§153-155, as explained above: the basic relation should
be definitely described (in purely structural terms) by the inner-constitutional prop-
erties of the objects constituted from it. Since the basic relation is empirical, which
is what motivated Carnap to eliminate it in the first place, it cannot be described by
purely logico-mathematical statements but only by statements also containing em-
pirical value. Hence, the statements used for the structural definite description of the
basic relation must contain empirical content.

3.3 THE EMPIRICAL NATURE OF THE BASIC RELATION

3.3.1 The importance of an empirical basic relation for constitution theoretical epistemology

What has not been discussed yet is whether the basic relation is actually empirical.
This is indeed a profound problem, as this is not granted by the setting of the con-
stitutional theory. We might be mistaken about whether the relation which we have
taken as the starting point for the constitution does indeed hold between objects in
the world. At the point of the constitution where the basic relation is introduced,
only pure logic is yet available as a tool for logico-epistemological justification, as
we have just seen. Modelling the different steps of the constitutional system after
empirical content, the indicators of the basic states of affairs, is again only logico-
epistemologically justified if the basic relation itself is empirical. This is the case
since—strictly speaking—the objects of the constitution are, for constitution theory,
mere derivations of the basic relation. In other words, the only part of the defini-
tion of the objects of the constitution theory which is not just pure logic is the basic
relation. If the basic relation is not empirical, we cannot guarantee that all scientific-
epistemological statements will not simply become mere trivialities as soon as we
apply logico-definitional methods on them. Instead of having provided a frame-
work for the discourse of empirical science, we would have merely created a math-
ematical playground without any relation to the actual world. It is essentially at
odds with Carnap's aim of eliminating metaphysically charged language forms for
the very reason of its lack of empirical content. However, if we cannot feel assured
that Carnap's construction is based on an empirical basic relation, it is in danger of
becoming subject to the same criticism. For a constitution theorist, epistemology
itself is in danger here.

3.3.2 Foundedness as the 'bug fix'

There is no way out of this problem by the given means at this point of the Aufbau. We need a 'bug fix'. The solution, which Carnap himself supplies, is the notion of 'foundedness'. This is exactly what we need: our problem is that we only have pure logic available to justify the empirical status of the basic relation (or better: that it is logico-empistemologically justified to use an empirical basic relation). 'Foundedness' is, as it happens, exactly that: a basic notion of pure logic. The reasons for Carnap to introduce this notion read exactly as the obstacles of our current situation: foundedness cannot be deduced from pure logic, nor is it part of any outer-logical field (cf. Carnap, 1998, §154).

3.3.3 The redemption of foundedness

What seems to be a drastic and desperate step by Carnap is a well-conceived suggestion to directly target the problem of the application of logic and mathematics in constitutional theory, perhaps even in scientific discourse in general. Logic is purely conventional and therefore the statements deduced from it are a priori true. The same holds for mathematics since it is reducible to logic (we must keep in mind that we are in the world of thought of the Aufbau here, which is logicist). But in the case of constitutional theory and science, we do not want mere a priori truths. Instead, we want empirical content to determine the truth of the statements in question. At the same time, we want to make objective, i.e. inter-subjectively communicable, statements about the world, which Carnap, as we have seen before, considers requiring the form of structural definite descriptions. In other words, we want to formalise the empirical input from empirical sources. Constitutional theory aims to provide the means for that. Foundedness ensures in this picture that, although we employ formal methods, our epistemological framework for discourse and investigation in science is in the end empirical. Instead of erasing the distinction between empirical and logico-mathematical knowledge, of which Friedman accuses Carnap for introducing foundedness as a logical primitive, Carnap saves what is crucial for constitution theory and for the framework of scientific discourse it wants to provide: a distinction between the empirical and logical parts of the constitution.[13]

The last remaining question of the three stated above is: can we make out the sentences in the construction, which are instances of the basic relation, as being true?

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[13]The difficulty Carnap encounters in the Aufbau in making clear this distinction and the fatal problem of foundedness, which we will argue for in the following section, can be considered a foreshadowing of the Carnap-Quine debate on analyticity (see Leitgeb and Carus, 2020).

We think that Carnap holds this statement to be true. This is the actual Achilles' heel of the Aufbau as we will see in the next and last section of this essay.

4 TOWARDS THE VIENNA STAGE

4.1 SELF-CONTRADICTIONS IN CARNAP'S AUTOBIOGRAPHY

A major point of concern for the neo-Kantian interpreters of the Aufbau is the apparent self-contradiction Carnap displays in his intellectual autobiography. Here, he writes:

[The Vienna Circle] assumed that there was a certain rock bottom of knowledge of the immediately given, which was indubitable. Every other kind of knowledge was supported by this basis and therefore likewise decidable with certainty. This was the picture which I had given in the Logischer Aufbau*; it was supported by the influence of Mach's doctrine of the sensations as the elements of knowledge, by Russell's logical atomism, and finally by Wittgenstein's thesis that all propositions are truth-functions of the elementary propositions.* (Carnap, 1963, p. 57)

Carnap—in retrospect—takes a stance on the purpose of the Aufbau which seems significantly different to the neo-Kantian position, such as Friedman's (as described in this essay). This approach sounds much more like the positivist picture Carnap embraced after he became part of the Vienna Circle (after writing the Aufbau): the meaning of a sentence depends on its verification (cf. Stöltzer and Uebel, 2006, pp. XXXVIII-XL), in the terminology of the Aufbau: on the ostension of the basic objects which are mentioned in it and their inter-relations. This is an open contradiction to the structuralist conception of meaning which we have reconstructed under a neo-Kantian reading in this essay. Friedman (1999b, chapter IV, pp. 145-152) explains the issue by denying that Carnap refers to his own motivations here. Instead, Friedman thinks that Carnap illustrates the ideological reception of the Aufbau in the intellectual climate of the Vienna Circle. We are not fully convinced by Friedman's explanation for the apparent dissonance between the Aufbau and Carnap's later view on it and we want to offer the sketch of a slightly different solution in the following section.

An anonymous reviewer of this paper pointed out that they consider Tsou's view

(Tsou, 2003) close to the account presented in this paper. We want to seize this opportunity to point out how his paper indeed differs from ours. Tsou merges the two dominant readings of the Aufbau in his essay: he agrees with the neo-Kantian interpretation, which we have endorsed in this essay, insofar as he shares their reading of the Aufbau as essentially concerned with the question of an objective framework for empirical science. However, he also agrees that Carnap's reductionist methodology is significantly connected to objective empirical conditions of justification in the form of his reductionist methodology. This latter claim is at odds with the neo-Kantian interpreters and in agreement with the older line of readings of the Aufbau, tracing back to Quine. This family of interpretations reads the Aufbau in the Russellian tradition of British empiricism as well as, retrospectively, from the Carnapian papers of the days of the Vienna Circle. Under this reading, Carnap is indeed looking to find a 'rock bottom of knowledge' from the introductory quote in the Aufbau. We disagree with this second component of Tsou's reading: we do not think that Carnap's motivation for the Aufbau is based on any Russellian project looking for a 'rock bottom of knowledge' but essentially concerned with questions of objectivity. Instead, we want to suggest that it was indeed the open questions of the Aufbau which have motivated Carnap to move to a more Russellian project in his later Vienna days. Unlike Tsou, we do not seek to dispense with or modify the neo-Kantian reading; but rather we want to stay faithful to it. Our aim is merely to give an alternative rational explanation for Carnap's later autobiographical self-contradictions.

4.2 A RATIONAL EXPLANATION

As we have said in the last section, we need some principle which allows us to recognise the truth of all instances of the basic relation in the constitutional system to make the constitution function. We think that Carnap was aware of this fact and the incompleteness of the Aufbau in that regard when he published it for the first time in 1928. This would explain why the core idea of a fully structural constitutional system and, thus, the elimination of the basic relation is so little emphasised throughout the Aufbau: neither is it mentioned in §1 which sets the goals of the project nor in §156 where the theses of the Aufbau are explicitly listed. §§153-155, in which the elimination of the basic relation takes place and where the notion of foundedness is introduced, are even labelled 'can be omitted' ('überschlagbar'). We think that this was due to Carnap's awareness of the lacking keystone which would show the indubitable truth of the instances the (founded) basic relation in his construction.

The central piece of evidence for this thesis is the enthusiastic adoption of verification as the criterion for meaningful sentences, which was adopted by Carnap right after the publication of the Aufbau (cf. Stöltzer and Uebel, 2006, pp. XXXVIII-XL). Only after Carnap had adopted verificationism was the missing keystone for the project of constitutional theory found since verificationism provides an offer for the 'rock bottom of knowledge',[14] a truth-determining principle for all scientific sentences, which is absent in the Aufbau. Certainly, the empiricist Carnap's verificationism is very much at odds with the structural conception of meaning which serves as the backbone of the Aufbau.[15] However, many other leitmotifs of the Aufbau persist in Carnap's philosophical work and later re-appear in his *Die logische Syntax der Sprache* (Carnap, 1934)[16].

Unlike Friedman, we do not have to make the case for mere irrational 'peer pressure' to explain the verificationist stage in Carnap's philosophical life and his later view on the Aufbau; but, we can offer a rational and philosophical reason: by moving on to the Vienna station Carnap saw a chance to find answers to the last open question of the Aufbau.

Summary: foundedness defended

According to the Aufbau, every scientifically meaningful statement can be translated into a structural one. This translation is necessary to achieve inter-subjectively communicable, or better: objective, discourse. This is the major focal point of the neo-Kantian interpreters of the Aufbau.

In the Aufbau, Carnap constitutes every scientific object along the logico-epistemological order of cognition by means of logical definition. The basic relation, the recollection of similarity, is the only empirical entity in that construction. Every other object in the constitutional theory is generated from it. In order to accomplish the goal of the Aufbau, the objectivisation of scientific discourse, Carnap eliminates the basic relation by structural definite description in terms of high order objects constituted from it and by introducing a novel notion, called 'foundedness' as a basic concept of logic.

For the logicist Aufbau, logic and mathematics are of purely conventional and tautological nature. Two statements have the same logical value if they are equal in extension. Constitutional transformations preserve logical value, but they do not preserve epistemic value. This property shows a risk of trivialisation into which the Aufbau could run, as constitutional definitions can possibly turn epistemically mean-

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[14]Cf. the quote in the beginning of this essay.

[15]We would like an anonymous reviewer for urging us to make this point explicit.

[16]Or in English: 'The logical syntax of language' (Carnap, 1937).

ingful statements into logical truths, or in Carnap's thought: trivialities.

We argued that this problem can be avoided if three conditions are fulfilled. First, at no step of the constitutional system must there be a statement that is true merely by logico-mathematical means. Second, we must ensure that our basic relation is itself empirical. Third, we must be able to determine all instances of the basic relation in the constitutional system as true.

The first condition is satisfied since logic and mathematics are constituted outside the constitutional system and since every statement in the constitutional system is ultimately based on its corresponding underlying state of affairs. The second criterion is not ensured by the constitutional system itself, as we have seen. Nonetheless, foundedness turned out to be the ideal 'bug fix' for this problem.

In the last section of the essay, we gave an outlook on how our prior investigations can be used to offer a better explanation than Friedman's 'Vienna reception' thesis for the change in Carnap's later self-reception of his project in the Aufbau and his philosophical development after the Aufbau. What the Aufbau had failed to provide, verificationism was able to supply: a justification for the truth of all instances of the basic relation in his constitution, a 'rock bottom of [scientific] knowledge'.

We are aware that this essay is a mere informal brief sketch of our reading of foundedness. However, it is intended to set the stage for a later elaborated formal treatment of our reading of foundedness. It, additionally, shows the attractiveness of our reading for a philosophical understanding of Carnap's verificationist turn during his Vienna days. ✿

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Part II: Spotlight on Equality and Diversity

Manners Makyth Woman:
An Interview with the MCR Presidents of 1980 and 2020

The 2019–20 academic year marked forty years since the first female students were admitted to New College. To note this anniversary in The New Collection, *the first female MCR President (Ruth Mazo Karras,* [*] *1980–81) and the most recent (Malina Graf,* [†] *2019–20) chatted to Irene Yang* [‡] *(MCR Equality and Diversity Officer, 2019–20) about their respective experiences of college life and the past, present, and future of women's equality.* [§] *This interview was generously transcribed by Martha Swift.*

IRENE: Thank you so much for coming. Perhaps you could tell us, Ruth, what the MCR Committee was like when you were here. How big was it? What was the environment like? How was the gender balance?

RUTH: I don't remember actually how big it was. It was 40 years ago. It was probably a third women. In the first year there were women in the college, Alan Ryan, who later became the Warden, but at that time was in charge of graduate admissions, decided that they couldn't admit a large number of undergraduates because they had to keep the places for a sizeable intake of men, and they only increased the number of women very gradually. But he decided that, with the postgraduates, they could admit as many women as they wanted. That is what I was told that they decided, anyway. So they basically admitted any woman who applied who was qualified in that first year. So it wasn't as gender unbalanced as things usually are in the first year that women are part of it.

IRENE: Was New College welcoming to its female members at the time, the women who started then?

RUTH: Well, I don't think they knew how to be. I mean, everybody was making an effort, but it was very new. And again, it didn't affect the postgraduates so much because there were many international students. The people who were coming from elsewhere in the UK were used to a mixed environment, but for the college, it didn't entirely know how to deal with it.

I remember one instance with a female undergraduate, and there was a rumour going around that she had been attacked in the college, and everybody was really concerned that there was an attacker on the loose in college. But the college didn't make any statement or any announcement about it, so I went and I talked to the Warden. And he said 'Well, we can't make a statement about it because it would be invading the kid's privacy' and apparently it was an ex-boyfriend. It was not someone who would be a threat to anyone else. Well, they needed to come out any say that. That someone in the college has been attacked, that the attacker was known to her and was not a threat to anyone else. But they wouldn't say that because they thought that it was the woman-friendly thing to do to respect her privacy. But, of course, word gets around and so on. They were trying, but they didn't have a lot of experience.

An example of how they really tried to make it hospitable to women; the undergraduates had a fair number of women's activities. They had a dining club I think. The postgraduates didn't really. I don't think we really felt like we needed it. The MCR community was very separate from the undergraduates.

IRENE: Malina, I'm curious to know if the challenges around gender and authority that Ruth faced at the time resonate with you in any way? Did you even think about it when you started as president? Or was it like you just took the role on as president and were just like 'what do I have to do'?

MALINA: I didn't think about it when I ran for president. Afterwards, I had a few fellows coming up to me and being like 'This is so great that we have a female president now', and I was like 'Is this special?' I mean I can totally see your point that they were a little bit scared, that they didn't know how to treat women, but they are fairly casual with that now.

RUTH: I said they were not very prepared and didn't know what to do, but I also wasn't very prepared and didn't know what to do. When I first came, the Warden had tea for all the new students, and they had a mixed group of postgraduates and undergraduates. But it was mostly undergraduates because that's who the majority of the students were. And I happened to be the only woman who was invited to tea in that group. So we were there, and there was tea, and everybody just stood around and stood around, and nobody was drinking tea. Until I finally realised: 'Oh, I'm a woman, I'm supposed to drink my tea first'. I'm fresh off the boat, you know, I didn't know this. So there was some learning on both sides.

IRENE: Were you conscious at the time that you were running to be the first female president, and did you encounter any resistance in that process? Was there a distinct sense that the role, prior to your application, was a 'man's role'?

RUTH: No, I don't think so. I guess I was peripherally aware of it, but I don't really remember it being a big thing. It had always been a man before because there had only been men in the college before, but I don't think anybody said 'Oh we should have a woman'. People just said 'who can we get to do this'. I don't think anybody else wanted the job. I mean, we didn't have much of an election.

So I was aware, and I guess people were aware, that I was the first woman, but I wasn't doing it to be pioneering. I don't think anybody had the idea that I was. I don't know what the job entails now, but it was mostly, back then, it was social organising. I mean, events and things.

IRENE: Were you feeling afraid when you were running because you knew that you were the first cohort of women?

RUTH: I don't think so. The postgraduates were all off in our Sacker building, and then there were a couple of buildings on Holywell Street that people were in. We felt really separate. For the first year students, I said there were a lot of women, and we felt pretty comfortable. I must say, I was here on a Rhodes Scholarship. The Rhodes Scholars at some of the other colleges, and I'm thinking particularly Balliol because I had a very good friend who was there, the postgraduates there were much more integrated with the undergraduates. And it was a very different experience for her because she felt sort of really outnumbered and like she was a curiosity every time she went into the hall.

IRENE: What made you run for president? Have you enjoyed the job and did you enjoy the job? What did you learn from it that has stayed with you?

RUTH: Well, I don't remember exactly why I did it. I've spent a fair amount of my life as an academic doing things like chairing committees because I'm essentially a fool for work. I'm a good citizen. When there's something that needs to be done and people ask me, I do it. I didn't really do anything like that when I was an undergraduate. I studied and then I had a job for 15 hours a week all through my undergraduate years, so I didn't really do any organizations or activities. But what I discovered is that I was actually pretty good at it and I have spent a lot of my career doing that since.

IRENE: And what about you, Malina?

MALINA: I basically ran because I had held a small committee position before, but I wanted something bigger than that, and I was contemplating between social sec and president. Then I had lots of conversations with friends, and one friend said on the day of the deadline, two hours before the deadline, that basically social sec is more

for having fun and president makes you learn a lot in the position. That makes a lot of sense to me, so I wrote a very last minute manifesto for president. Also there was nobody else running for it, and we had some people running for social sec, so I felt like there was a bigger need for president.

I've really really enjoyed it. I think it was a very steep learning curve in the beginning. I had a lot of people on the committee who had not been on the committee before who were suddenly in high roles, and I had to make sure that everything goes smoothly. But also learning to delegate things, to learn to turn off my ego at some point. Organising myself so that I can do my research and still go to meetings and not miss too much work. I think every term I enjoy it more, so I will leave with one crying eye. But I know that the MCR is in very good hands, so I'm very pleased with that.

IRENE: Another question to both of you: do you feel that Oxford is now genuinely committed to gender equality? Is there still an element that is about numbers and token representation?

RUTH: So I haven't spent a lot of time in Oxford in recent years. My impression is that there are other areas in inclusivity and diversity where Oxford needs to do a lot more work and that it has made more progress on gender equality than it has on a lot of other areas. I would say that of most universities, to tell you the truth, it's not just Oxford.

MALINA: I'd agree with that. People are still talking about admissions and gender ratios and things, but I think there is a lot more focus now on BAME students and other students and a lot more work needs to be done in that area. But college still is very happy every year if, at undergrad, they are at a 50/50 rate of male and female students coming in.

RUTH: Also, I think if you look at overall numbers, they seem very equal, but if you compare English Literature and Engineering, the ratios are going to be very different.

IRENE: What do you think that New College can do to encourage more applicants from diverse backgrounds? How important is it to preserve tradition while embracing change?

RUTH: I think a huge amount depends on how undergraduate interviews are conducted because if you want to get more students from schools that don't typically send a lot of students to Oxbridge, then you can't expect them to have had the kind of preparation for interviews that they get at schools that send a lot of students to Oxbridge. You have to change expectations, and you have to be more … I mean, this would apply to postgraduates too, I think. You have to learn to recognise what is potential and what is polish, and don't just look for the people with polish.

This is not a criticism of what the college is doing now because I'm not really familiar with what they've been doing in this regard in recent years. But, I mean, in general you can't just say 'oh well, we're open to people of any background, as long as they conform to this idea we have of what a student knows and what they are able to do when they come to university' because people who come from different backgrounds are from different backgrounds.

MALINA: I think admissions is much easier at undergrad level, and the college does a lot for bringing in students from state schools or ethnic minority backgrounds. They have programs with some schools coming to visit. Also some criteria are a new thing, where students from less advantaged backgrounds can still make it, even when they are less good in their overall score in their interview than others.

I think its really difficult on the postgrad level. College and the university in general, I feel, does too little to manage that, just because you can't just focus on the UK, you need to tackle the world. That's a very, very big issue to fix. I wish more could be done, but also it's difficult to find ideas that are feasible.

RUTH: One problem really is postgraduate funding. Here and everywhere else. If you are funded by your supervisor's grant, great, but, particularly in the Humanities and especially for MPhils—the whole point of MPhils is that they generate funds. It's not that difficult to be admitted here to do a PhD. I mean, I know students who've been admitted here to do PhDs, who would not have been admitted to, say, the state university in the United States where I used to teach, even though, overall as a university, its far lower ranked, but we admitted very few students because we gave them all funding.

Here, many students are admitted without funding, and that means that they're not going to come unless they have resources from their families, or they feel comfortable enough that they are safe taking out a loan with the expectation that they will at some point be able to pay it back or their family will help them. That automatically skews your body of people you can admit; either people who are funded by their supervisors or by their home governments or a few outstanding people who are going to get fellowships on their own. You are automatically skewed to people who come from wealthier countries and who come from upper-middle class backgrounds where their families can afford to contribute. I think really key to diversifying postgraduate education is funding it better.

Again, this is not a criticism of this college or even of Oxford because my own university does a terrible job in this regard. We have exactly the same problem.

IRENE: Malina, do you think that people like Ruth have made it easier for women to gain positions of influence? Do you think there is anything more to be done on that?

MALINA: Interesting question because I think of myself as being very lucky to never have experienced being disadvantaged due to my gender. That's something... my friends have had situations like that that I have never had, and I think that's wholly based on the women who went before me, who were the first and second and third. So then at some point its normal, which is where I came in.

RUTH: What's your field?

MALINA: I do neuroscience. A DPhil in neuroscience.

RUTH: I'm in a field that's much more feminised—History.

MALINA: I think medicine in general is quite male. I looked at the divisions before, and I think that the ones that are most male are maths, physics, engineering. And the most female are medicine and biology.

RUTH: My daughter is an engineer. She was at Carnegie Mellon University, and it was something like 55/45 because they really made an effort. But, again, that's across all of engineering, and for women who are all… they are much more heavily in mechanical engineering, and the electrical engineering was much more men. Even there, its always somewhat skewed.

IRENE: I mean, I think this whole debate is centred on what we do at a very early stage, the way we socialise children into gendered ideas of what is acceptable. So naturally the preferences will evolve if that kind of very early stage influence is improve. Toy stores are very famously divided, with trucks and whatever grouped together for the boys and dolls and playhouses for the girls.

RUTH: I have two daughters, and, when the first one was born, we were very careful to give her a mix of toys. We would buy her trucks, and she would play: 'Here's the mommy truck, and the daddy truck, and the baby truck'. [*Laughter*] My second daughter, the one who is now an engineer, was always just really interested in how things work. If she had been a boy, we would have said: 'See?'. We didn't do anything differently, but she's just more interested in mechanical type things.

Some of it has to do with individual personality, but also she had the advantage of going to a school where there was a really emphasis on gender equality, so nobody was surprised she wanted to be an engineer. It wasn't something she had to fight for. That would have been different to my generation.

IRENE: The final question to end on, fittingly. Do you think that the college motto should be updated to 'Manners Makyth Woman too'?

RUTH: It doesn't alliterate. [*Laughter*]

When I was here, we made T-shirts with the college seal. But instead of New College, it said New College MCR, and instead of 'Manners Makyth Man', it said 'Theses takyth time'.

IRENE: Amazing. What do you think, Malina?

MALINA: I think my English isn't good enough to take up all the notes on that phrase, but I've been told that that's now a phrase that people know. Otherwise nobody will get the joke about the committee jumpers. The committee jumpers that say: 'Manners Makyth President'.

RUTH: I don't think I would actually change it. I'm a medievalist, and I like to keep trappings of the old. I mean, the fact is it was all men for 600 years, and changing the motto would just lose the alliteration and lose the tradition without really changing anything. I'd rather change other things about daily life and keep the motto.

IRENE: I love it. Thank you so much. ✺

Disability in a World of Tradition:
Why Valuing Difference Benefits Everyone

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It's early January, and I am in a termly catch-up meeting with my thesis supervisor. We had built a friendly working rapport over the 18 months since I started my MPhil, and having just spent the Christmas break frantically analysing the results of the experiments at the heart of my thesis, I was keen to get his thoughts on what I had found. Around 20 minutes in, I was busily talking about the implications of a graph I had made when he interrupted me mid-sentence and said, 'I have never asked you why you are in a wheelchair, and I just want you to know that it's not because I don't care.' Taken aback by the abruptness of this topic switch, I replied, 'Well no, I had never assumed that you didn't.' What followed was an awkward question and answer exchange about life with a disability which revealed, to my complete surprise, that I had clearly been the object of his fascinated admiration for some time.

To anyone who has lived with a visible disability, this anecdote will probably resonate. A common feature of what I have coined as 'everyday ableism' is the well-intentioned but nonetheless annoying habit that many able-bodied people have of feeling compelled by their own awkwardness to acknowledge that I am in a wheelchair. All too often, this is also accompanied by a sense of entitlement about their right to know both my medical history and fairly intimate details about my daily routines, questions that would seem bizarrely inappropriate to ask anyone else. But something stuck with me about this particular episode. Perhaps because it was completely unexpected, it served as a stark reminder to me that I look different to the majority of students around me. In a compliment to the New College community, this is not something I am often consciously aware of.

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Difference is a concept that has been central to my life. Unable to walk since birth due to cerebral palsy, I spent very happy years at both primary and secondary schools being the only wheelchair user in my year group, and was accompanied by a Teaching Assistant in all of my lessons. Fast forward some years, and I am now living on the main college site supported by a live-in carer. I have thus always required some bespoke arrangements and have been reliant on the support of others to reach my full potential. Although I have now come to realise that everyone is in some way or another reliant on the support of others, accepting this has not always been easy. I spent most of my childhood and teenage years denying my differences, fighting the disabled label, and insisting to everyone that I could do everything that 'normal people' (able-bodied) could. While an understandable set of attitudes to develop during adolescence in a society that teaches us that we will be rewarded for assimilation to the perceived 'normal', its toxic consequences became evident during the years of my undergraduate degree. As all of my school friends left my hometown to embark on what seemed at the time to be wildly exciting university experiences, I felt daunted by the physical and mental challenges of moving out, and chose to remain living at home, commuting to and from lectures. Whilst logistically manageable, the impacts of this decision evolved with time: the lack of time spent on campus left me distant from my new peers, and I struggled to make friends as a result. For the first time in my life, I felt as if my disability was actively holding me back and this began to erode my confidence, a process that became translated into an acute awareness of my physical limitations. I began to put pressure on myself when performing basic actions in front of others, such as picking up a glass. This anxiety became predictably self-reinforcing and damaging to my general self-esteem.

With the help of good friends and an introduction to the concept of structural oppression through feminist literature, I realised that my attitude towards disability was unsustainable. The idea that the societal status quo imposes a myriad of both hidden and obvious barriers to progression for certain groups whilst simultaneously encouraging within-group competition over collective solidarity strongly resonated with my own lived experience. I thus gradually began to reformulate my thinking, casting my disability as a source of power rather than a disadvantage. In the years since, I have come to celebrate my differences as a central part of my identity that enriches my life. I do not wish to make this process sound easy or speak for others in the disabled community who are not in a position to share this attitude, and it is certainly true that there are times when living out this philosophy can be challenging. However, I have come to realise that dependency on others can be socially beneficial, I find that many of the friendships I make are stronger as a result, since it is a fantastic way of finding empathetic people, getting beyond superficial small talk and learning to trust each other. Furthermore, my attitudinal evolution towards difference has

taught me that no one succeeds in isolation, and that most other people do not care about what you perceive to be your weaknesses, and if they do, they are quite possibly not positive influences to have around anyway. What's more, my experiences with disability have imbued me with a strong desire to make a difference to society, a drive that has brought me here to study politics, which I hope will prove worthwhile in the future. I am now proud to be disabled, it is an intrinsic aspect of my identity that I would not change.

Oxford University is rightly proud of its traditions, and they are a big part of being a student here. However, disability inclusion (particularly access equality) often appears to be in tension with tradition. Between 2016 and 2018, across all colleges, Oxford admitted an average of just five undergraduate students per year who are wheelchair users or have significant mobility impairments. Talent is evenly distributed throughout society, but opportunity is still sparse for this demographic, many of whom would not even apply because of the (now often misplaced) perception that Oxford is inaccessible to them. New College is no exception, founded in 1379 and with buildings as old as they are beautiful. Access is improving vastly, but as a physically disabled student I am still sadly unable to access many of the teaching rooms in college or its impressive library, and am clearly one of the only wheelchair users to have ever been able to live on site.

However, being part of the New College MCR over the past two years has helped me put my desire to celebrate my differences into action, and I have become vastly more confident as a result. The MCR is a welcoming, supportive and vibrant community of innovative thinkers and diverse talents. This environment has helped me to throw myself into college life. During my time here I have been the first occupant of the Kimber Wing, brand new state-of-the-art accommodation which has given me more independence in my daily life than I ever thought possible. I have also served as the MCR's first ever Disabilities Officer, working with the college to improve access and ensure that my happy experience here remains available to the next generation of New College students, regardless of physical capability (the Pavilion building is now fully accessible, a big change from not being able to get up to the MCR for the official Freshers welcome event when I started!). Lastly, I have edited this journal and am proud to have opened it up to non-peer reviewed submissions, which has resulted in the publication of three important pieces celebrating equality and diversity. Most importantly however, I have met some great people who have given me cause to believe that Oxford truly can become a place that celebrates diversity.

Tradition is a powerful force that mediates the links between past and present. This is important to maintain but can be done inclusively or exclusively. If we learn to challenge tradition to include our differences, we may better reap its benefits in uniting people as a community that is open, understanding and embracing of the

inherent diversity that makes us strong. There is a long way to go and many battles still to be fought, but the more that people feel comfortable to celebrate what makes them different, the easier these will become and the more we will all benefit from their contribution. ✺

'Intelligence Is...':
Reflections of a Chinese–South African Student at Oxford

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What is intelligence?

I often get gasps from people when I tell that that I am studying a DPhil at Oxford University. They ask me what my research is, however, I always tell people that the greatest lessons that I have learnt, have not necessarily come from my research work, but in fact, from the city itself - whilst privilege and affluence definitely places individuals in a better position to have access to knowledge, there are many forms of intelligence that do not always come from knowing certain words, or being able to recite great philosophical works from say Camus. The greatest barrier to success is the belief that intelligence is something that we are born with, not something that can be acquired.

The surreal experience of attending Oxford University and being accustomed to terminology such as 'bop', 'JCR/MCR/SCR' or 'Michaelmas/Hilary/Trinity' are but 'part of the Oxford experience' but also in itself, arguably elitist, and can be likened to how say feminist language may *ipso facto* further marginalise minority groups. On the contrary, the existence of such language has arguably also enabled and maybe even encouraged conversation on otherwise taboo topics that did not, in the past, have any platform. It has provided a vocabulary for people of minority groups to express themselves, do it in a clearer manner, and also feel more liberated. By its existence, this 'normalises' these concepts and reduces the stigma that surrounds these topics. One of my greatest fears in coming to Oxford, was encountering stuck-up elitist students with whom I would never fit in with. I had seen the statistics of the demographic spread at Oxford prior to my arrival, which showed a larger portion of

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privileged Caucasian students, who came from upper class English families. I could not have been more different to this stereotype, being Chinese South African, having middle-class immigrant parents. I felt worried that I would be judged, for my lack of knowledge on English folklore stories, my lack of knowledge of common nursery rhymes, and English classic literature. For this fear, I remember taking a few years to even build the confidence to place and application and I know that I am not alone in this.

However, since arriving in Oxford, I have come to find that whilst it is true that Oxford is majority privileged upper-class Caucasians, the university is aware of the lack of demographic diversity and have put in place schemes such as UNIQ to encourage more students from a different background to apply to Oxford. In terms of the people, I have come to find a pleasant and welcoming community of students, who are open to ideas that may challenge their societal standing and have come to appreciate that this problem is in some senses self perpetuated. Old traditions are an inherent component of English culture, which has led to the retainment of words such as 'bop'. However, this is not synonymous with an engrained society. Despite not knowing much about English literature, or Irish history, coming to Oxford has enriched my life since I have met a willing community of students who are always happy to share their knowledge, and interested in learning more about my experiences. Since my arrival here, I have been exposed to great English literature and learnt more about classics such as T.S. Eliot's 'The Wasteland', Irish Viking history and Homer's *Odyssey*. Oxford is an enriching and vibrant city that flourishes on the level of internationalism——no one is not smart enough for Oxford and Oxford is not necessarily made up of just highly intelligent people, I would argue that Oxford is made up of open-minded people who are willing to learn and be challenged. ✿

Papers Published 2019–20

This is the fourth year in which *The New Collection* does not only publish its own articles, but also a list of articles by New College MCR members that are accepted by other peer-reviewed journals since the previous edition. We are happy to present and congratulate the following entries[5]:

- Aizuddin, M. A. (2019). [Review of the book *Dreams made small: the education of Papuan Highlanders in Indonesia*, by J. Munro]. *Social Anthropology/Anthropologie Sociale*, 27(4), 720–721. DOI: https://doi.org/10.1111/1469-8676.12715.

- **Beentjes, Casper** and Ruth Baker (2019). "Uniformization techniques for stochastic simulation of chemical reaction networks." *The Journal of Chemical Physics* 150 (15), 154107.

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- **Bluemke, E.***, D Bulte*, A Bertrand, B George, R Booke, K Chu, L Durrant, V Goh, C Jacobs, S Ng, V Strauss, M Hawkins, R Muirhead (2020). "Oxygen-Enhanced MRI MOLLI T1 Mapping during Chemoradiotherapy in Anal Squamous Cell Carcinoma". *Clinical and Translational Radiation Oncology*, 22 (May) 44-49. DOI: 10.1016/j.ctro.2020.03.001 *Indicates equal contributions.

- Chankseliani, M., **Aizuddin, M. A.** (2019). Cross-Country Comparison Of Engagement In Apprenticeships: A Conceptual Analysis Of Incentives For In-

[5]Referencing styles vary by discipline and are recorded as submitted by the author(s). New College members are given in bold where there are multiple authors.

dividuals And Firms, *The International Journal For Research In Vocational Education And Training*, 6(3), 261–283. DOI: https://doi.org/10.13152/IJRVET.6.3.4.

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- Krawczyk, Konrad., **Matthew I. J. Raybould**, Aleksandr Kovaltsuk Charlotte M. Deane (2019). Looking for therapeutic antibodies in next-generation sequencing repositories, *mAbs*, 11:7, 1197–1205, DOI: 10.1080/19420862.2019.1633884.

- McGlynn, J. (2020). "United by History: Government appropriation of everyday nationalism during Vladimir Putin's third term". *Nationalities Papers*, 48(3): 1–17.

- New K.A. (2020). 'The Intertextuality of Character Representation in Ancient Historiography'. In: *Comparative Literature Across Cultures: Bridging Boundaries Between Verbal and Visual Arts*, pp. 31–48.

- New K. A. (2019). 'Deception, Illusion and Punishment in Classical Art and Russian Neoclassical Drama'. In: *Journal of Philology*. 4 (68). Moscow: The Institute of Linguistics of the Russian Academy of Sciences (Institut Yazykoznaniya RAN) and Russian Academy of Linguistics, pp. 182–190.

- New K. A. (2019). 'Nostalgic Motifs in a Historiographic Context'. In: *Journal of Philology. Voprosy Philologii*, 2 (66). Moscow: The Institute of Linguistics of the Russian Academy of Sciences (Institut Yazykoznaniya RAN), pp.186–197.

- **Panchal, P.**, Kaltenboeck, A., Harmer, C. J. (2019). Cognitive emotional processing across mood disorders. *CNS Spectrums*, 24(1), 54-63. DOI:10.1017/S109285291800130X.

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- Tata, A., Woolman, M., **Bluemke, E.** and Zarrine-Asfar, A. (2019). "Ambient Laser-based Mass Spectrometry Analysis Methods: A Survey of Core Technologies and Reported Applications" in Zaitsu, K. (ed.).*Ambient Ionization Mass Spectrometry in Life Sciences: Principles and Applications*. Amsterdam: Elsevier.

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