



AUC Undergraduate Journal of Liberal Arts & Sciences

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The Amsterdam University College (AUC) Undergraduate Journal of Liberal Arts and Sciences is a biannual, interdisciplinary publication showcasing outstanding undergraduate academic papers. The Journal aims to demonstrate the strength of undergraduate scholarship at AUC, to reflect the intellectual diversity of its academic programme, to encourage best research and writing practices, to facilitate collaboration between students and faculty across the curriculum, and to provide students with opportunities to gain experience in academic reviewing, editing and publishing. The Editorial of the Journal is composed of members of the InPrint board, a registered AUCSA committee.

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Foreword

Welcome to InPrint's 15th Edition: Open Issue!

In this issue we publish papers from the three majors, written by any AUC student. In the past, we have always published six papers in the Open Issue, one from each major, but this year we decided to expand this in an effort to encompass a variety of different fields and to make our publication more interdisciplinary. We hope to hear from you about whether this is something you'd like us to continue with in the future!

The nine works published in this issue have undergone rigorous selection and editing processes carried out by our Editorial Board with the aim of to improve their clarity and accessibility, making them interesting to a general reader but maintaining a high standard in their academic field.

I would like to extend a word of thanks to all the editors who worked tirelessly to bring each paper to publication standard. You are all perfectly meticulous and notice every minor detail – without you this publication certainly would not have been possible. Thanks also goes out to the authors for their continued engagement in the process and for their patience with our comments. Last but not least, we acknowledge the faculty- and peer-reviewers whose in-depth knowledge of the respective fields assisted us to make informed and knowledgeable choices and comments. We hope you consider getting involved in the process again next year!

This publication contains papers on topics ranging from 3-dimensional bio-printing to attitudes towards the HPV vaccine in the Netherlands to the representation of the disability community in film. We believe these papers exemplify the variety of interests encouraged by a liberal arts and sciences education, as well as provide relevant insights into various topics important in society today.

I hope that this Open Issue will share an aspect of the academic work and interests in the AUC student body with our peers, our families, and any interested reader. Enjoy our selection of papers!

Sarah Martinson, on behalf of InPrint

A note from the photographers

Each semester, InPrint publishes an issue of their journal that containing a collection of selected papers from students at AUC. InPrint requested to repeat the collaboration with RAW that was organised for the previous Capstone Issue as the cover images taken by the photographers team were a huge success in making the journal more appealing. The abstracts or introductions of six of the papers published in this issue were sent to RAW and the photographers team as inspiration for their photographs, which are included as the cover images with these papers. The captions below give a short explanation of the artists' thought process and interpretation of the abstracts.

Rosalie de Kerf for Julia Marinissen's *Damsellies in the Face of Climate Change* This collage tries to capture the key aspects of the impacts of climate change on damselflies. These include the fact that they travel "north" in response to the increase in "precipitation" and "desertification" in the Netherlands.

Rosa Wijnen for Iris Schuring's *Disappointing Achievement* The photograph is an abstract visual representation of a black hole made by underexposing a lamp that is turned off. It is supposed to make you curious, just like the unsolved information paradox is keeping many scholars in the dark.

Aniketh Khuria for Salomé Petit's *"Enem(ism)"* The photograph collage is supposed to capture the tension between masculinity and femininity, including how these differences and similarities come into play when they inhabit spaces suffused with the undertones of power-play and resistance. Among these crevices and fragmentations that come to exist when they interact, interesting observations can be made.

Sophie Kipper for Zohar Preminger's *Stigma Toward Sex and HPV Vaccine Uptake in the Netherlands* This is an interpretation of the HPV Vaccine. The purple inside the needle represents HPV particles which make up the vaccine. The color black of the injection needle represents the negative stigma associated with the vaccine.

Sophie Kipper for Roos Ouwehand's *The Specific Deterrent Effect of the International Criminal Court* This is an artistic interpretation of the logo of the International Criminal Court.

Sanch Kuber for Bluma Brecher's *An Edifice of Un-avengeed Tears* The photographs represent a contrast of light and darkness, which represents Nietzsche's thoughts regarding defining suffering, but also a glimmer of hope into his more positive views. They show that suffering is part of life and is not actually negative at all. The man in the photo can either represent mankind or Nietzsche himself.

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Abstract

Climate change is projected to continue to influence nature in the following centuries. Odonates have been confronted with this change already. The highly threatened species of damselfly *Coenagrion hastulatum* in the Netherlands has not, in the past decades, been immensely affected by climate change. However, as this review shows, the future of the *C. hastulatum* in the Netherlands will likely be jeopardized by local climate change. As the range of Odonata moves northwards on the northern hemisphere in response to climate warming, increased precipitation, and droughts, the species will likely be pushed out of its Dutch habitat. Mechanisms including increased competition with southern species, higher larval mortality rates caused by increased water temperatures, and differential fish predation are found to be potential reasons for this projected shift northward. To avoid the extirpation of the species, anthropogenic climate change mitigation should be of high priority for policymakers. This minimization of climate change-related impacts should come hand-in-hand with a reduction of other anthropogenic pressures, such as fragmentation, acidification, and destruction.

Keywords and phrases: *Odonata, Climate Change, Conservation, Coenagrion hastulatum, Review*

Suggested citation (APA7):

Marinissen, J. (2021). Damselflies in the face of climate change: Forecasting the future of *Coenagrion hastulatum* (Odonata: Coenagrionidae) in the Netherlands. *AUC Undergraduate Journal of Liberal Arts and Sciences*, volume 15(1), 1-8.

Damselflies in the Face of Climate Change - Forecasting the Future Resistance of *Coenagrion hastulatum* (Odonata: Coenagrionidae) in the Netherlands

Loss of biodiversity in both aquatic and terrestrial ecosystems is one of the effects of climate change (O'Neill et al., 2017). The distribution of Europe's dragonflies and damselflies (the two suborders comprising Odonates) in general have thus far expanded as a result of climate warming. Nevertheless, Termaat et al. (2018) point out that this trend does not "apply to all species, nor to all regions" (p. 947), and increased future effects of climate change could pose a severe threat to European Odonata. In the Netherlands, the range of Odonata has expanded and abundance has increased since the 1970s as a result of improvements in water quality and habitats in general, which is the living environment of Odonata larvae (Termaat et al., 2015). There are, however, some species that are still notably vulnerable within the boundaries of the Netherlands, such as the highly-threatened *Coenagrion hastulatum* (Figure 1 and 2) (Charpentier, 1825), commonly referred to as the northern damselfly or spearhead bluet (Dutch Butterfly Conservation, n.d.). Added stressors, resulting from climate change-induced alterations of the habitat of *C. hastulatum*, could potentially push the species to extirpation. A synthesis of the predicted implications of climate change-related alterations of the habitat of *C. hastulatum* in the Netherlands is therefore valuable to compile and is currently absent from the literature. Moreover, a species-specific climate impact model on *C. hastulatum* has not yet been performed. There is, nevertheless, species-specific information available regarding *C. hastulatum* within broader studies (Termaat et al., 2018; Li & Park, 2020), as well as case studies concerning aspects of abiotic habitat change on the species (Dudaniec et al., 2018; Van Doorslaer & Stoks, 2005; Hassal & Thompson, 2008; Johansson & Brodin, 2003). This paper gives a general introduction to the species and an overview of the current and past states of *C. hastulatum* in the Netherlands. Thereafter, it discusses how climate change can be incorporated in conservation biology and the projected impact of climate change on the habitat of *C. hastulatum*. Then, it provides a synthesis of existing knowledge, thereby sketching a first overview concerning the potential effects of

climate change on the *C. hastulatum* population in the Netherlands. Finally, the mechanisms behind these projections are analyzed, allowing for an assessment of the extent to which climate change may pose a threat to the *C. hastulatum* population in the Netherlands in this century.



Figure 1: *C. hastulatum* male in rest (Anonymous, 2008). Characterized by the slightly green coloration of their eyes as well as a green haze over the ventral side of their thorax (Dijkstra, 2019).



Figure 2: Spearhead-pattern of male *C. hastulatum* on the first two abdominal segments (Moonen, 2016).

A General Profile of *Coenagrion hastulatum* and Its Conservation Status in the Netherlands

To be able to assess future implications of climate change on the Dutch *C. hastulatum* populations, it is essential first to have a grasp of the ecological functioning, the distribution, and the potential historical and current impacts of climate

change on the abundance of the species in the Netherlands. Coenagruid damselflies have a predatory role in their ecosystem, which is situated close to shorelines of freshwater environments. The larvae spend about ten months submerged whilst in their juvenile stages of development before the adult emerges (McPeck, 1998) during the early summer months (Figure 3). According to Speerwaterjuffer (n.d.), the species currently occurs in the southeast margins of the Netherlands in low abundance (Figure 4) and is highly threatened. According to Termaat et al. (2010), *C. hastulatum* has undergone a decline in abundance in the Netherlands since the 1980s resulting in this currently small population size. They point out that it is difficult to conclude whether this decline is directly linked to climate change-related alterations of the bodies of water that form part of their essential environment or some other influence. The authors do suggest that other factors have likely had a larger impact on the populations of *C. hastulatum* in the Netherlands, including habitat fragmentation, eutrophication and acidification. However, the competition of more southern species with *C. hastulatum* has also increased as they thrive in warmer climates leading to higher competition pressures for *C. hastulatum*. The contribution of environmental pressures, other than climate change, to the decline of the *C. hastulatum* population in the Netherlands thus, potentially, overshadow the previous impacts climate change might have had through this increased competition on the Dutch population of *C. hastulatum*. Therefore, it is plausible that some of the decline of the Dutch *C. hastulatum* population is governed by climate change-induced warming.

Conservation Biology and Climate Change Induced Habitat Alteration

To assess the potential future impact of climate change on the population of *C. hastulatum* in the Netherlands, a framework for climate change in conservation biology can be beneficial to use. In general, it can help with streamlining the process of the examination of the risk climate change could have on a species. Kujala et al. (2013) compiled such a framework of various suggestions on how to approach conservation biology, taking into consideration the challenge posed by the inherent uncertainty in climate change projections. Firstly, they suggest assessing and comparing multiple ecolog-

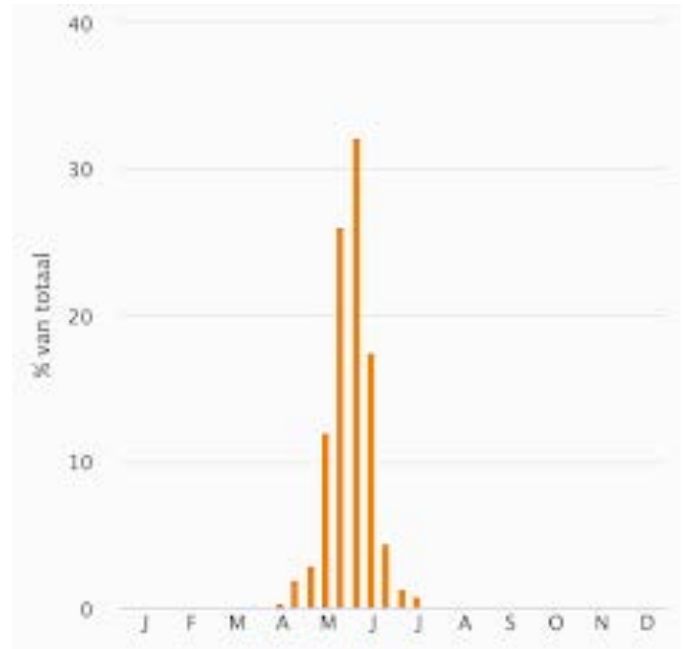


Figure 3: *C. hastulatum* period as imago, percentage of the total amount over each month (Speerwaterjuffer, n.d.).



Figure 4: Distribution of observations (red dots) of *C. hastulatum* in the Netherlands between 2000-2015 (Speerwaterjuffer, n.d.).

ical forecasts (as far as the availability of this information allows). Secondly, they emphasize the value of using historical and current data on trends in populations in conservation, as these are more accurate than projections. Thirdly, they advise examining and comparing various different socio-economic scenarios. Lastly, they stress that uncertainty in both climate and ecological models should not be a justification for inaction when it comes to protecting biodiversity.

Nonetheless, when we examine different projected scenarios for the habitat, applying historic impacts of climate change to future projections may not be entirely accurate, as the impacts of climate change increase over time. Three projected climate change scenarios for the Netherlands by 2100 (Table 1) are available based on the 3rd Intergovernmental Panel on Climate Change (IPCC) Assessment Report (AR) (Mooij et al., 2005). IPCC is currently developing AR6, and both AR4 and AR5 have already projected higher impacts of climate change than AR3 (IPCC, 2007; IPCC, 2014). This means that when choosing one of the scenarios for the Netherlands provided by Mooij et al (2005) the high but still more conservative estimation from the AR3 is the most accurate projection available to use. According to the high estimation scenario, the average air temperature in the Netherlands will rise 4-6 degrees Celsius (Table 1). According to Van Doorslaer and Stok (2005), the average water temperature of the habitat during the growing season of the nymphs of *C. hastulatum*, in August and September in a region comparable to the distribution of the Dutch population has average water temperatures ranging between 18.4-25.7 °C. According to Mooij et al. (2005), the rise of water temperature in shallow freshwater bodies will be equivalent to that of air temperature, which would then

also be 4-6 degrees Celsius, which could potentially lead to drying out of habitats. Moreover, precipitation will increase extensively during winter and evaporation during summer. Especially the latter could be a threat for *C. hastulatum*, as increased evaporation enhances eutrophication of its habitat (Nazari-Sharabian et al., 2018). Furthermore, the intensity and frequency of extreme rainfall events will increase, which governs the water levels of *C. hastulatum*'s habitat. The projected sea-level rise of 1.1 m is evidently not yet a factor of concern within the century for *C. hastulatum*. When looking further into the future, however, the Netherlands could, if greenhouse emissions are not brought to zero, expect various flooding events to occur. This would influence *C. hastulatum* by both wiping out the population as well as the freshwater habitat. Overall, climate change is projected to impact the living environment of *C. hastulatum*.

Impact of Climatological Stressors on the Dutch *C. hastulatum* population: Future Range Shifts, Adaptation and Phenotypic Plasticity Ecological Projection Models

Ecological projection models allow us to understand the implications of projected changes in the environment of a species for future population dynamics. In projection models for the European Odonata, the focus has largely been on temperature, precipitation, and surface water velocity changes (Li & Park, 2020). It is predicted that under various climate scenarios (RCP 2.6 and RCP 8.5) projecting to 2050 the distribution of 105 dragonfly species in Europe, including *C. hastulatum*, will generally expand with rising temperatures. However, as the impacts of climate change further unfold, it is predicted that distribution will

	Low estimation	Medium estimation	High estimation
Temperature	+ 1 °C	+ 2 °C	+ 4-6 °C
Average summer precipitation	+ 1%	+ 2%	+ 4%
Summer evaporation	+ 4%	+ 8%	+ 16%
Average winter precipitation	+ 6%	+ 12%	+ 25%
Intensity of extreme rainfall events	+ 10%	+ 20%	+ 40%
Frequency of extreme rainfall events	47 yrs	25 yrs	9 yrs
Sea level rise	+ 20 cm	+ 60 cm	+ 110 cm

Table 1: Projected impacts of climate change in the Netherlands by the end of the century, based on the 3rd IPCC AR (Mooij et al., 2005). The sea level rise is corrected for lag and subsidence.

reduce drastically towards the end of the century as environmental conditions become increasingly extreme. *C. hastulatum* is, however, according to Termaat et al. (2018), a, among the Odonata, a relatively cold-dwelling species. It is, therefore, possible that *C. hastulatum* experiences either a decreased level of distribution expansion or none at all until 2050 or even a drastic distribution decline earlier than the 2080 mark proposed by Li & Park (2020). Termaat et al. (2018) add to this projection that *C. hastulatum* is threatened or under the influence of environmental warming, mainly in the southern margins of their distribution area – as a result of the local increase in temperature, the species is forced to shift their range northwards. The populations in the Netherlands fall under these southern margins (Figure 5), in the trailing edge area of the shifting distribution. Overall, these modeled projections across different climate scenarios, therefore, predict challenging environmental survival conditions for *C. hastulatum* in the Netherlands.

The negative effect of climate change on the distribution of *C. hastulatum* in the Netherlands could be outbalanced by *C. hastulatum*'s capability to alter its phenotype or even by local adaptation caused by rapid evolution. Examples of such acquired adaptations have been found in the Coenagrionidae species *Ischnura elegans* that counteract specific effects of climate change due to both phenotypic plasticity and local rapid adaptation (Dudaniec et al., 2018). Dudaniec and colleagues (2018) found "that genes involved in the thermal stress response, visual processes, epigenetic modification, and ion regulation may play significant roles in adaptation during this climate-mediated range expansion in *I. elegans*" (p. 2577). While research specifically concerning adaptation through rapid evolution or plasticity of *C. hastulatum* has not been performed yet, it is plausible that *C. hastulatum* will also have a degree of adaptability or plasticity to climatological changes because of the phenological connection it has with the *I. elegans*. However, without a thorough investigation, it is uncertain whether the rate of adaptation aligns with or outbalances the rate of change of the environment that is to be expected.



Figure 5: European distribution of *C. hastulatum* (Dijkstra, 2019), purple indicates the range in which *C. hastulatum* occurs in healthy population sizes, within the red zone the species is rare. The red plus stands for an isolated population that has disappeared.

Mechanisms Underlying the Negative Effect of Climate Change on Dutch *C. hastulatum* Populations

One reason why climate change could negatively impact on *C. hastulatum* is the reduced survival of eggs and larvae at significantly higher water temperatures. For instance, Van Doorslaer and Stoks (2005) found that on larval development and temperature. The study compares larval development under different water temperatures of a Swedish population of *C. hastulatum*, classifying as a more northern species, and a Belgian population of *Coenagrion puella*, which is a southern species. The outcomes suggest that with an increase in temperature from 22-27 °C, the number of *C. hastulatum* eggs that successfully hatch decreases by about 15%. In addition, larval survival decreases by approximately 50% as temperatures rise from 22-27 °C. As discussed, current temperatures during the growing season of the larvae range between 18-25 °C (Van Doorslaer & Stok, 2005), and with the projected increase of 4-6 °C (Mooij et al., 2005), the water temperature moves to this unfavorable

condition for larval development and egg hatching. Furthermore, the larval development and egg hatching success of *C. puella* were less influenced by temperature increases. This shows that not only is there a direct impact of climate change and associated warming on *C. hastulatum*, but also an indirect one through possible competition with the fitter *C. puella*. As indicated in Section 2 (Termaat et al., 2010), competition of southern species with the more northern dwelling *C. hastulatum* has likely already impacted the population negatively in the past, and this is likely to become more severe as environmental conditions become warmer.

Although the larvae seem to be vulnerable to impacts of climate warming and adaptations through rapid evolution are likely not going to mitigate this, they do have adaptations that are already part of their genome that might reduce some of the challenges climate change poses. According to Hassal and Thompson (2008), the larvae of *C. hastulatum* are adapted to survive in a dry environment for a limited period of time. This ability to dry up and survive is a trait that could be beneficial in the face of climate change, given that climate change is likely to cause a higher degree of drought events (Mooij et al., 2005). Termaat et al. (2010), on the other hand, stress that the species does not thrive in eutrophic water bodies, as is the outcome under conditions with high evaporation due to increasing temperatures, because eutrophic conditions result in lower oxygen levels in the habitat, which is unfavorable. Because negative consequences of eutrophic water on the survival of the species are dominant, despite their possible adaptations, droughts are thought to have an overall negative effect on *C. hastulatum*. A shift in competition dynamics between *C. hastulatum* and other damselflies like *C. puella* as a consequence of habitat change initiated by drought events has yet to be studied.

Lastly, an indirect mechanism is proposed by Johansson & Brodin (2003), in which higher degrees of surface water acidification decreases predation pressure by fish on damselflies. Their study shows that higher abundances of predatory fish typically do not significantly affect *C. hastulatum* abundance, but do affect other species' population size. With rising atmospheric CO₂ levels (IPCC, 2014) and resulting water acidification negatively impacting the abundances of these fish predators, species other than *C. hastulatum* could experience

abundant growth. This could lead to increased competition for resources and downward pressure on the population size of *C. hastulatum*.

Conclusion

A synthesis of previous studies suggests that climate change is a serious threat for the Dutch population of *C. hastulatum*, and could, in the near future, be the push that drives the species to extirpation. Beyond anthropogenic carbon emissions, and associated global warming, eutrophication, and acidification, it is evident that pollution and habitat fragmentation are all human-induced stressors that impact damselfly species significantly in their habitat. A holistic conservation and management approach should therefore be taken, in addition to combating climate change. Further development of an accurate forecast of the potential impact of climate change on *C. hastulatum* is advised. Valuable insights could be gained if a quantitative approach were also taken, for example, by creating a species-specific prediction model on *C. hastulatum* for the Netherlands, as this would more accurately indicate the potential weight of the various suggested impacts and mechanisms proposed here.

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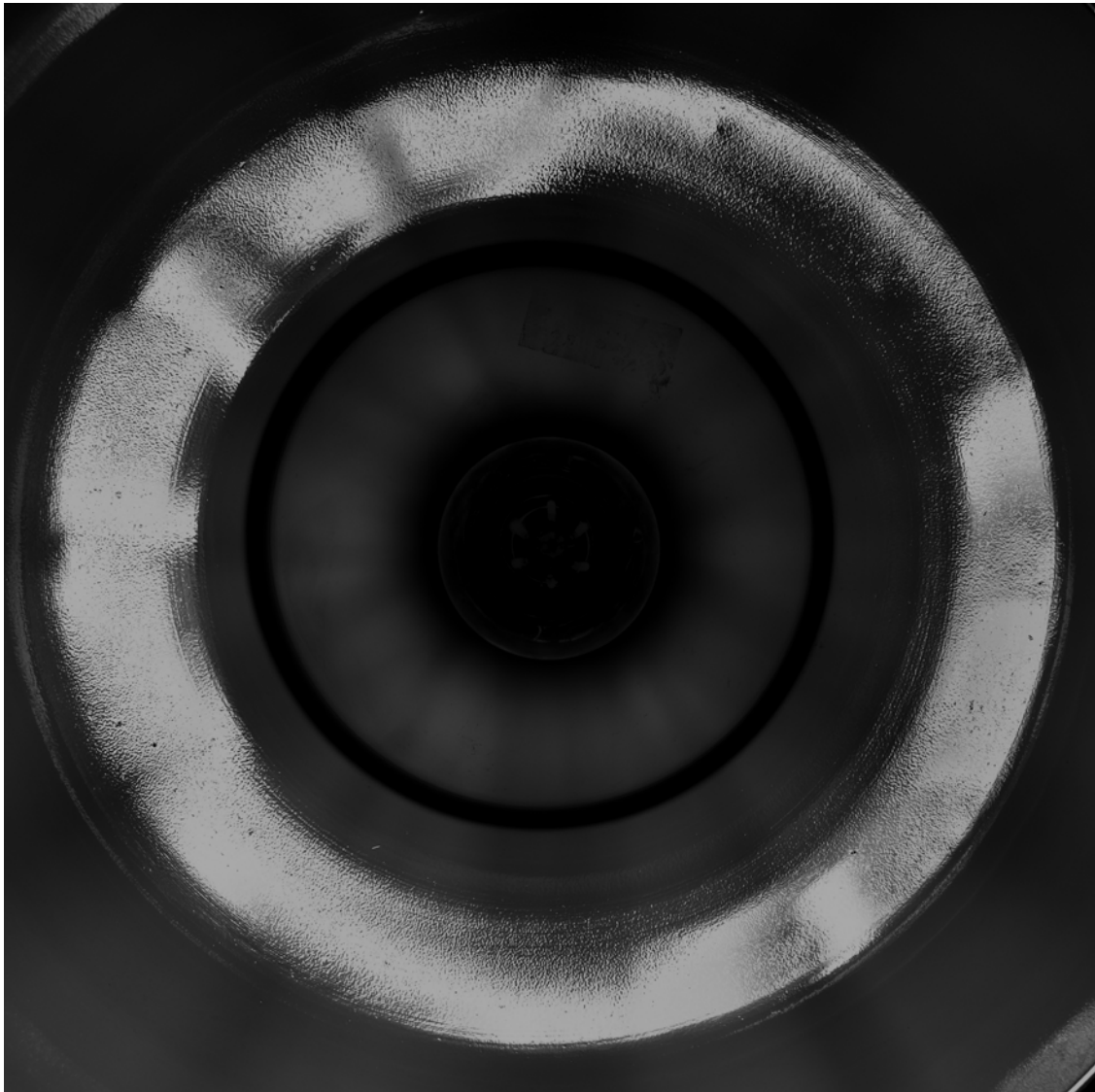
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Sciences

Disappointing Achievement

Information Paradox Solved

Iris Schuring



Photographer: Rosa Wijnen

Abstract

The black hole information paradox has long been considered a tool with which to understand quantum gravity. Recently, the paradox has been solved in a breakthrough paper by Geoffrey Penington (2020). The current paper presents a synthesis of the developments leading up to this achievement and the consequences of Penington's findings through a narrative review. It shows how these findings compare to Hawking's work (1974) and how the paradox is solved. It is then argued that the application of gravitational fine-grained entropy led to a new geometrical interpretation of black holes, but has unfortunately not resulted in a better understanding of quantum gravity. Nevertheless, future research will have to explain the black hole geometry transformation and how Penington's method holds up in different gravity frameworks, which could possibly still help the field's understanding of quantum gravity.

Keywords and phrases: *quantum gravity, black holes, information paradox, entropy*

Suggested citation:

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Disappointing Achievement: Information Paradox Solved

Quantum gravity is one of the major unsolved problems in Physics. As it dictates Physics at the heaviest but smallest scale, it will be necessary for the study of the Big Bang and the nature of the Universe. Black holes form a tool to understand quantum gravity, as, because of their high mass but small size, they are influenced by both gravity and quantum mechanics. When Hawking (1976) posed that black holes must emit thermal radiation, eventually leading to the evaporation of these massive objects, a heated debate ensued. The evaporated black holes would leave identical vacuums all over the Universe (Misner, Thorne & Wheeler, 1995), and these vacuums cannot store any information (Susskind & Lindesay, 2014). This means that a destruction of information would take place, which is impossible according to the second law of Thermodynamics. This is the infamous “information paradox”. Only recently, Geoffrey Penington (2020) was able to solve this issue by computing black hole entropy with fine-grained entropy, which combines quantum mechanics and gravity within Hawking’s earlier computations. A narrative review of recent publications will be conducted since there exists no synthesis of these new developments yet. This will aid in the understanding of how these new findings were achieved and what they mean for the field’s understanding of quantum gravity. It is argued that the usage of gravitational fine-grained entropy has led to a new geometrical interpretation of black holes, but has not led to novel physics explaining quantum gravity.

Quantum Gravity

There are four fundamental forces of nature: the electromagnetic force, the weak and strong nuclear force, and the gravitational force. Gravity is explained by Einstein’s theory of general relativity, which shows how the presence of mass and energy warps the fabric of space and time. This warping results in the altered motion of objects, perceived as gravity. Due to its extremely weak effect at small scales, gravity only plays a role at larger scales, such as planetary configurations. The other three forces work at the small Planck length scale of $1.616 \times 10^{-35}m$, and are explained by quantum mechanics, which describes particles as wave

functions obeying the Heisenberg principle of uncertainty. The inherent uncertainty of the movement patterns of particles means that properties such as mass and velocity can only be predicted with limited accuracy. Quantum mechanics is, however, not compatible with general relativity, as it requires that spacetime is flat, which is not the case for this theory. Therefore, to integrate these two grand theories into an overarching framework of quantum gravity, it must be understood how quantum processes curve spacetime. The scale difference between the theories makes this extremely difficult, however, and it thereby remains an unsolved problem in physics.

As mentioned above, black holes form a tool with which to understand quantum gravity as their size is small enough for quantum effects to appear, while, at the same time, because of their extremely high mass, gravity cannot be neglected. Recent developments regarding the black hole information paradox and their influence on the understanding of quantum gravity are analysed in this paper. To do this, the concept of entropy is explained in detail, and Hawking’s results regarding black hole entropy are described. Furthermore, the development of gravitational fine-grained entropy and how it has led to Penington’s break-through paper is discussed. Hawking’s results are then compared to those of Penington. Publications referencing Penington’s paper are discussed to synthesize all consequences to the field’s understanding of black hole geometry and thereby quantum gravity. Finally, a critique is delivered to evaluate how well these new results hold up and how this has influenced the understanding of quantum gravity.

Black Hole Entropy

Entropy describes the number of microstates available to a system consistent with its macroscopic properties, such as temperature or volume. Microstates are defined as the arrangement of the individual components of a system, and entropy can thus be considered as a measure of disorder. There are multiple ways to define entropy more intricately. For the information paradox discussion, the notion of coarse- and fine-grained entropy are of significance. Coarse-grained entropy can be seen as the general thermodynamic entropy: it is measured over a limited number of observables as a simplification of all microscopic details, and it in-

creases over time, as stated by the second law. In 1932, this concept from Thermodynamics was further developed by John von Neumann to create a new definition of entropy for quantum mechanics: von Neumann or fine-grained entropy (Wang, 2012). This form of entropy quantifies the uncertainty about the quantum state of a system. An important property is the invariance of fine-grained entropy under time evolution, meaning that this form of entropy actually does not follow the second law of Thermodynamics by definition. The first computations of black hole entropy were given by the Hawking-Bekenstein formula (Bekenstein, 1973):

$$S = \frac{A}{4h\frac{1}{2\pi}G_n} + S_{outside}$$

where S denotes the entropy of the black hole, A the area of the horizon, $S_{outside}$ the entropy of matter outside the black hole that is still within its gravitational field, h is the Planck constant, and G_n is the gravitational constant. This formula shows the famous result that a black hole's entropy depends on its surface area, which led Hawking to question the second law. Its entropy also obeys the second law of Thermodynamics, as it increases under time evolution and can thus be regarded as coarse-grained entropy. Over the last fifteen years, there has been significant work done by several physicists to include gravitational effects into fine-grained entropy (Hubeny, Rangamani & Takayanagi, 2007; Barrella, Dong, Hartnoll & Martin, 2013), as was first proposed by Ryu and Takayanagi (2006). This form of entropy can now be properly applied to black holes as well:

$$S = \min\left(\frac{A}{4G_n} + S_{outside}\right)$$

The only difference with the Hawking-Bekenstein formula is the surface division. Here, the surface is chosen to minimize the entropy of the black hole and can even be set to be within the black hole itself. In contrast to the Hawking-Bekenstein formula, this definition does not follow the second law. This led some physicists to consider gravitational fine-grained entropy as the key to solving the information paradox (Almheiri, Engelhardt, Marolf & Maxfield, 2020), as Hawking's argument that a black hole's entropy does not follow the second law led to this paradox in the first place.

Page Curve

Recently, gravitational fine-grained entropy has fulfilled its promises in a break-through paper by Penington (2020). Like Hawking (1976), Penington assumes that evaporation occurs semi-classically when the black hole is much bigger than the Planck scale, which means that the quantum effects are considered separately from the gravitational effects. The Hawking radiation, thus, remains thermal in the earliest stages of evaporation. Where Hawking used coarse-grained entropy for the whole process of evaporation, Penington instead implements gravitational fine-grained entropy in the later stages. Since this entropy is minimized by choosing a surface that can be within the event horizon, the interior of the black hole can also be considered, something which Hawking neglected. It follows that the interior degrees of freedom of the black hole are not independent of the radiation but are, instead, quantum mechanically entangled, meaning that their quantum states cannot be described separately. This means that measuring either individually would lead to random results, but considering them together would show patterns. Over time, a growing part of the interior is encoded through quantum entanglement in the Hawking radiation escaping the black hole, giving information an opportunity to escape.

A notion that can be used to verify these new results is *Page time*, which is the moment when the entanglement entropy starts decreasing (Page, 1993). Don Page, after whom Page time is named, was the first to consider the fact that a black hole and its radiation are quantum entangled; entanglement entropy is the total amount of quantum entanglement between a black hole and its radiation. At the beginning of evaporation, entanglement entropy should be zero, as no radiation has been emitted yet. If information is indeed preserved, it must return to zero at the end of evaporation. This fits with unitary evolution, which is a restriction within quantum physics on the evolution of systems ensuring that the sum of mutually exclusive probabilities equals one. As the entanglement entropy initially increases as radiation is emitted and entangled with the black hole, it must start decreasing at some point – Page time – eventually returning to zero. Hawking's work (1976) however showed an ongoing increase in entanglement entropy, but Penington's (2020) results did lead to a final entan-

glement entropy of zero, which is consistent with unitary evolution.

Previously, the entanglement was only considered between the black hole surface and radiation, but Penington proved that Hawking radiation must be entangled with the black hole interior. The pattern in the amount of entanglement entropy is called the Page curve. Although the tracing out of a Page curve shows that unitary evolution does indeed take place, this does not address the information paradox directly as it only involves information transfer through Hawking radiation. This radiation can be found outside the cut-off area– the distance from where gravitational effects are very small due to the great separation from the black hole– which is why gravity was previously neglected by Hawking. However, the gravitational fine-grained entropy formula should still be used for the radiation for consistency, as this was applied to obtain the quantum state. The formula can also be used for areas without a black hole present, so it can indeed be used outside the cut-off area. Moreover, it can even be applied to complicated geometries such as areas with disconnected surfaces, which increases the overall boundary and is necessary to decrease entanglement entropy, which is required to solve the information paradox. This situation would occur if there are far away regions with entangled matter, meaning that Hawking radiation must, thus, be entangled with the black hole interior.

Geometry

The notion that disconnected surfaces can be considered through using the formula for gravitational fine-grained entropy brought about a new geometrical interpretation of black holes (Hashimoto, Iizuka & Matsuo, 2020). The disconnected regions are called “islands” and they play a role in the formula giving the full entropy of radiation with the exact quantum state:

$$S_{rad} = \min_X \left(\text{ext}_X \left(\frac{A(X)}{4G_n} + S_{semiclassical} \left(\sum \text{rad} + \sum \text{island} \right) \right) \right)$$

where A refers to the area of the boundary region of the island, and the minimal and extremal surfaces are with regards to the location and shape of the island. The second term represents the semi-

classical von Neumann entropy of the quantum state of both the island and Hawking radiation. In order to apply this formula, the Hawking radiation entropy has to be computed from the cut-off area to infinity. For a no-island situation, substituting into the formula gives Hawking’s result with a continuously increasing entanglement entropy. A non-vanishing island, however, can appear after black hole formation – then the generalized entropy has to be computed with the island area term included. Doing this shows that the generalized entropy decreases to zero, which is in accordance with unitary evolution. Hawking radiation must, thus, be entangled with such islands, providing a new geometrical interpretation for black holes.

Computing the final entropy of an evaporated black hole gives a clue about the possible geometries of islands inside black holes (Almheiri et al., 2020). This can be done by calculating the purity of the quantum state, which is realized through computing values related to the density matrix. A density matrix of a system describes the probabilities of observables in quantum mechanics. Through computing the trace of the squared density matrix, $\text{Tr}[p^2]$, and comparing this to the squared trace of the density matrix, $(\text{Tr}[p])^2$, the purity of the system can be found. For a pure state, and thus for zero entropy, these values will be equal, whereas for an impure state the squared trace will be larger than the trace of the squared density matrix. $\text{Tr}[p^2]$ can be calculated by a path integral, which considers all paths possible according to quantum mechanics and weights them by probability. The path with the highest weight, and thus the highest probability, would be the only one generally considered in classical physics.

A problem, however, with computing the purity of a system is that the density matrix is unknown when the path integral is too complicated to do calculations with. To get around this problem, the replica trick was used. Because only certain parts of the density matrix are required and not its entirety, a series of repeated measurements on replica black holes could be done, from which enough input data for the matrix can be retrieved. This trick is allowed because the path integral does not discriminate between real black holes and replicas. As all possible topologies must be regarded, one must sum over all the different ways of connecting the interiors. For unitary evolution, the final entropy must be zero, implying that $\text{Tr}[p^2]$ must

be equal to $(Tr[p])^2$. This limits the number of possible topologies to those which include *replica wormholes* only. These are structures connecting multiple disparate black holes in spacetime. Although there is no physical explanation for such wormholes as they describe unknown, non-local physics, their mathematics provides a solution for the information paradox. So, after the Page time, a black hole becomes ruptured such that different parts are connected through replica wormholes. Despite the lack of understanding of this new geometrical interpretation, it is the most promising solution of the information paradox so far.

Future Research

Since there is, as of yet, no physical explanation for the formation of wormholes, they imply unknown non-local physics. Through wormholes, events which seem disconnected through spacetime can influence one another. Although this surprising result reveals that the current understanding of gravity as space-time falters, it has failed to produce novel physics and so simply proves that the current understanding of gravity lacks insight. Although the information paradox had long been seen as a tool to ascertain the deeper framework of quantum gravity, it seems that it could be solved semi-classically nevertheless. Solving the information paradox has, thus, not provided a better understanding of quantum gravity.

Scepticism remains, however, as to whether this truly solves the information paradox. The information paradox has only been solved in the framework of AdS/CFT, which is a description of the Universe based on string theory. Further research will have to be conducted using the same method in different frameworks of gravity, for example in the Sachdev-Ye-Kitaev (SYK) model or Jackiw-Teitelboim (JT) gravity. Moreover, there is the risk of overinterpretation of the replica trick as the concept itself does not remain without controversy. Specifically, it is unknown how different replicas could be connected, as was assumed through the use of replica wormholes. Finally, as Penington's paper is very recent, there is a possibility that future research will find errors in his work. These uncertainties leave room for different solutions, which could involve new physics and, in the end, potentially improve the field's understanding of quantum gravity.

Conclusion

In short, Penington's findings were possible due to the integration of gravitational effects into fine-grained entropy. By including islands in black holes, it was shown that Hawking radiation becomes entangled with such disconnected interior regions and thereby information is quantum mechanically encoded in the outgoing radiation. This has led to a new geometrical interpretation of black holes, in which wormholes connect different parts of the ruptured black hole. Although the long-standing information paradox was thereby solved, it did not lead to a description of quantum gravity. However, there are questions remaining regarding the newly found geometrical transformation of black holes. Moreover, Penington's results have only been calculated in the framework of AdS/CFT – future research will have to determine whether it works for other gravity. Finally, as the results are very recent, only time will tell if they stand up to scrutiny as it will take some time for the scientific community to examine all relevant details. Although Penington's paper has led to a new geometrical interpretation of black holes, it has not led to novel physics explaining quantum gravity, disappointing many who thought that the information paradox had the potential to address this greater question.

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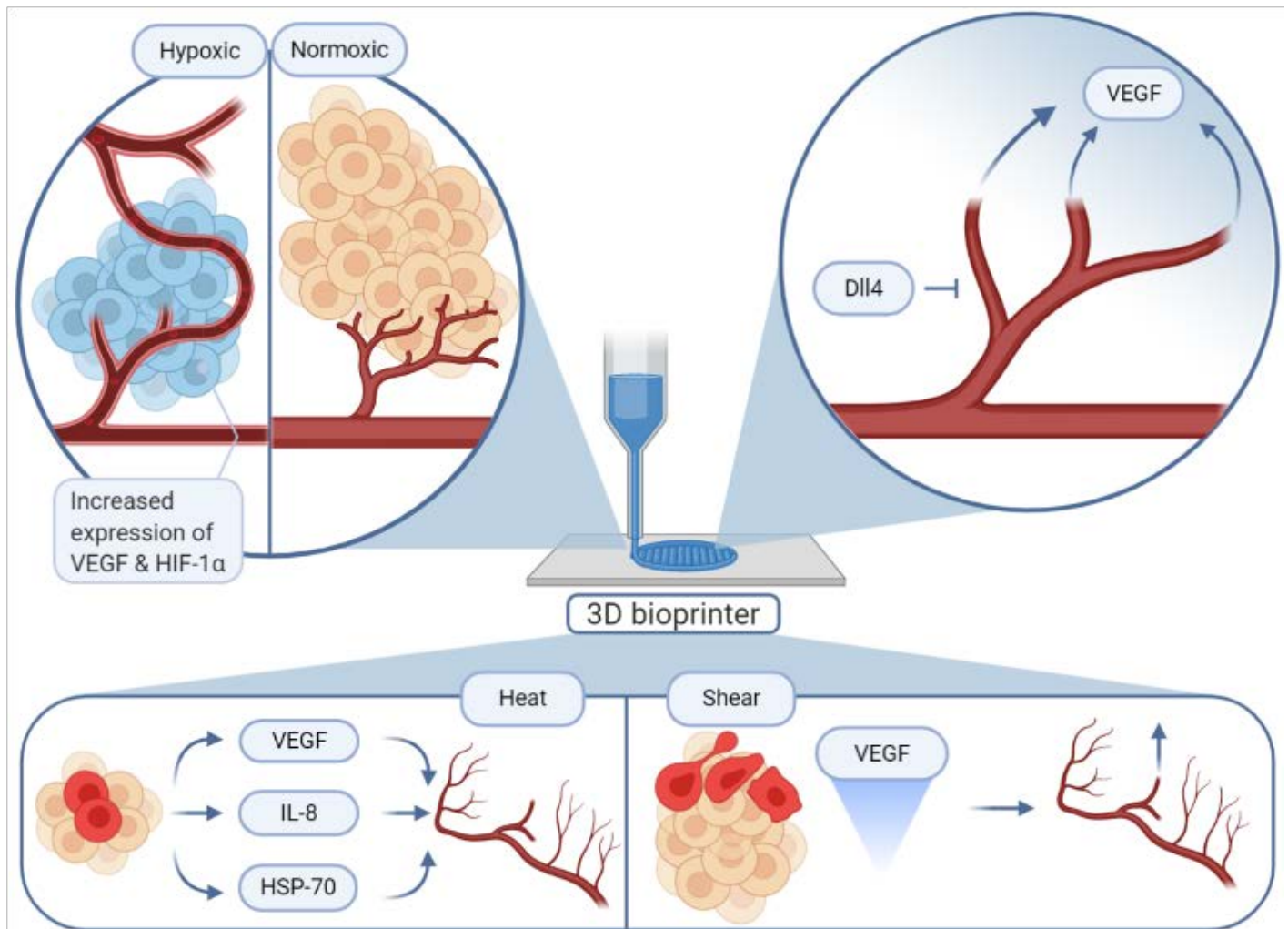
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An extra dimension to 3D bioprinting

the role of factors influencing the VEGF pathway in bioprinting vascular systems

Tessa Zonneveld



Graphical Abstract - Factors influencing 3D bioprinted vasculature

Abstract

To fabricate functioning human organs for organ transplants, vascular system 3D bioprinting techniques must be improved. The vascular endothelial growth factor (VEGF) signalling pathway is key in the formation of vascular systems, hereafter angiogenesis, and has been used to develop vascular systems in 3D bioprinted tissue. This paper uses a literature review to provide an overview of the factors influencing VEGF-mediated angiogenesis and how these factors can be implemented in bioprinting processes. Both intercellular and microenvironmental factors influence the structure and functionality of the vascular systems that develop through VEGF-mediated angiogenesis. With regards to intercellular factors, a concentration gradient of VEGF from hypoxic cells to blood vessels is essential for the development of functional vascular systems. The size and functionality of 3D bioprinted vascular systems can therefore be increased by altering the nutrients available to the cells on the printing surface. With regards to microenvironmental factors, the heat produced by the printer and the shear that cells undergo in the printing process increase the growth of neovasculature. The positive effects of the 3D bioprinting process on the development of a vascular system can therefore be maximised by carefully adjusting the settings of the bioprinter. These findings show that we can use knowledge obtained from previous experiments to improve our ability to print stable tissues fit for organ transplants, thus reducing the reliability of patients on donors.

Keywords and phrases: *VEGF, 3D bioprinting, angiogenesis, printer settings, concentration gradient*

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Introduction

3D bioprinting can potentially prevent complications in the healing process of organ transplantation due to adverse immune responses to body-foreign proteins on the transplanted organ. Matching the blood and HLA type of the donor and recipient can reduce the risk of rejection, but does not eliminate it. Creating a donor organ from the patient's cells, however, has the potential to completely avoid a rejection response by the immune system. Yet, 3D bioprinting of transplant organs requires stable vascular systems – networks of blood and lymph vessels – which currently poses an obstacle to clinical applications of this technique (Hasan et al., 2014; Mori et al., 2020). One approach to the creation of vascular systems in printed organs is to mimic the body's natural pathways of blood vessel formation in the printing process (Hasan et al., 2014).

This paper explores how our knowledge of factors influencing VEGF-mediated angiogenesis could potentially improve 3D bioprinting vascular systems through an analysis of the relevant literature. Angiogenesis is the process of blood vessel formation from pre-existing host endothelium, a thin layer of cells on the inside of blood vessels (Kim et al., 2018). Angiogenic sprouting starts with a new blood vessel sprouting of a pre-existing vessel, in which the signalling protein vascular endothelial growth factor (VEGF) plays a very important role (Abhinand et al., 2016). Not only does VEGF cause sprouting, it also controls the direction of angiogenesis, which is important to ensure that the whole tissue receives enough blood (Abhinand et al., 2016). These properties of VEGF may be used to tackle one of the main issues of 3D bioprinting vascular systems – the lack of control over the spatial patterning of new (or developing) vascular systems (Hasan et al., 2014). Through the means of a literature review, this paper provides an overview of the VEGF signalling pathway in angiogenesis and both molecular and printer-related factors that influence the efficacy of VEGF-mediated angiogenesis in 3D bioprinted organs. The literature has been collected from PubMed, Web of Science, and NCBI with variations of search terms such as 'angiogenesis', 'VEGF concentration gradient', 'hypoxia', 'thermal inkjet bioprinters' and 'shear'.

The VEGF signalling pathway

The VEGF pathway is a key signalling pathway of angiogenesis, which controls cell function through a series of molecular interactions (see Figure 1). For example, it triggers angiogenic sprouting by activating the epithelial-mesenchymal transition (EMT) of cells, causing them to break free from endothelial tissue and giving them the ability to move (Abhinand et al., 2016; Luo et al., 2016). The production of VEGF is triggered under hypoxic (oxygen-poor) conditions or when a tissue is injured (Tiemeijer et al., 2018). When VEGF binds to its receptor on endothelial cell membranes, the vascular endothelial growth factor receptor 2 (VEGFR2), an intracellular signaling pathway is activated, leading to the expression of the gene coding for the protein Delta Like Ligand 4 (DLL4) (Tiemeijer et al., 2018). DLL4 can initiate a change of conformation and function of the endothelial cell that results in the formation of a tip cell, which makes up the front of a growing blood vessel (Tiemeijer et al., 2018). Tip cells are crucial in the direction of growth of a new blood vessel because they express more VEGFR2, which binds to VEGF and thus causes the tip cell to move towards other VEGF molecules (Tiemeijer et al., 2018). As the tip cell continues to produce DLL4, the protein is secreted by the cell and binds to Notch receptors on neighbouring cells. Notch receptors activate an intracellular signaling pathway, causing these cells to adopt the phenotype of a stalk cell (Tiemeijer et al., 2018). Stalk cells proliferate to elongate the growing blood vessel, thus forming the walls of the vessel. To ensure that stalk cells cannot differentiate into tip cells and cause branching from the growing blood vessel, stalk cells have a lower expression of VEGFR2 (Tiemeijer et al., 2018). Rather, stalk cells express VEGFR1, an alternative receptor for VEGF, which acts as a decoy for VEGF and thus further suppresses sprouting (Pecorino, 2016).

Cells can, however, be influenced to switch between tip cell and stalk cell phenotypes, depending on the composition of the microenvironment of a cell, which can be used in 3D bioprinting (Pecorino, 2016; Tiemeijer et al., 2018). This implies that manipulating the factors that influence the expression levels of proteins involved in angiogenic sprouting could potentially be applied to 3D bioprinting vascular systems. After all, extracellular factors can be tightly controlled by researchers in order to

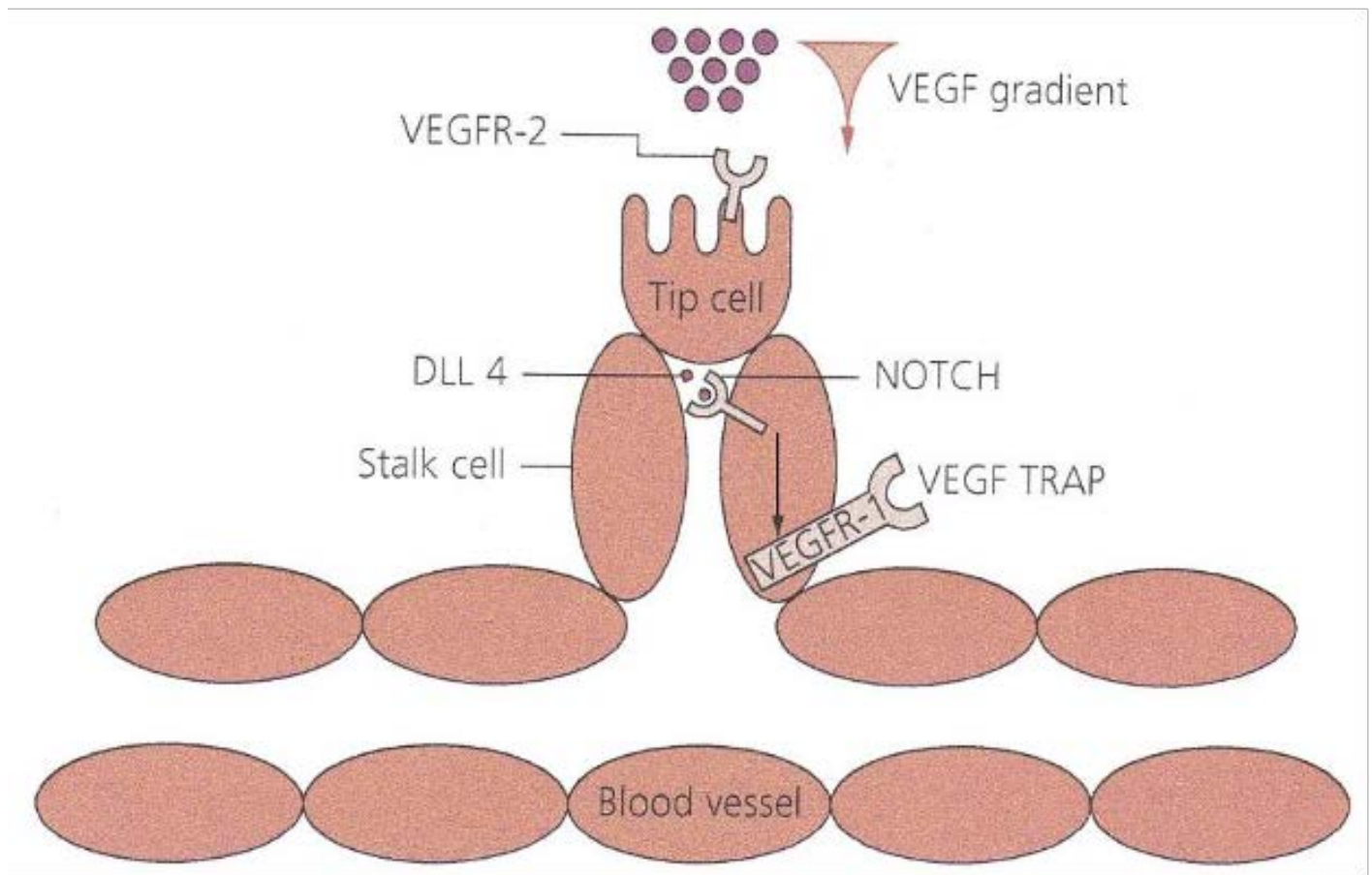


Figure 1: VEGF signalling pathway (adapted from Pecorino, 2016, p. 234)

search for the ideal microenvironment for the development of a vascular system in a 3D bioprinted organ.

The concentration gradient of proteins determines the architecture of vascular systems

Since the direction of sprouting blood vessels is determined by proteins of the VEGF signalling pathway, one of the ways in which cells and researchers alike can change the direction of angiogenesis in their favour is by introducing a concentration gradient of proteins (Freeman et al., 2020; Moreira-Soares et al., 2018; Tiemeijer et al., 2018; Tsui et al., 2017). In vivo, VEGF proteins are secreted by hypoxic cells that are too far removed from pre-existing blood vessels to receive enough oxygen, which establishes a concentration gradient of VEGF flowing away from the hypoxic cells. This causes new blood vessels to grow towards hypoxic cells.

Additionally, Tiemeijer et al. (2018) discovered that the presence of DLL4, produced by the tip cell of a sprouting vessel, when adjacent to stalk cells, prevents secondary sprouting towards the location of the DLL4. They also showed that a predetermined DLL4 pattern could increase the ratio of sprouting in one direction versus random sprouting. Thus, the location of DLL4 in tissue partially determines the direction in which new blood vessels sprout. Taken together, the results of Tsui et al. (2017) and Tiemeijer et al. (2018) indicate that proteins of the VEGF signalling pathway, namely VEGF and DLL4, determine the location and direction in which the sprouts are most likely to grow. The influence that proteins of the VEGF signalling pathway have on the spatial patterns of a vascular system, therefore, makes it an attractive pathway to employ in 3D bioprinting.

Various experiments have shown that the VEGF signalling pathway also shapes the spatial patterns of vascular systems that develop in 3D bioprinted tissue. For example, Poldervaart et al. (2014) showed that the continuous presence of a VEGF

gradient on the printing surface led to increased growth of endothelial cells towards the highest VEGF concentration gradient, which indicates that a controlled VEGF gradient can increase the size and distribution of new blood vessels. However, in this experiment, full maturation of the blood vessels was prevented by a clash between materials used to control VEGF release and printability of the cell surface. The researchers suggest that the 3D bioprinted tissue will eventually develop fully mature blood vessels naturally by the recruitment of pericytes, cells that wrap around blood vessels, by the immature blood vessels. Freeman's et al. (2020) experiment supports this hypothesis by showing that an artificial homogeneous distribution of VEGF on a printing surface stimulated less vascular growth than a concentration gradient. When they increased the VEGF concentration towards the middle of the circular surface and let the blood vessel grow inwardly from the edge, significantly longer blood vessels were formed towards the middle than with a homogeneous concentration. The combined results of Poldervaart et al. (2014) and Freeman et al. (2020) show that the concentration gradient of proteins of the VEGF signalling can be manipulated to increase control of the spatial patterns of 3D bioprinted vascular systems.

An hypoxic environment increases the functionality of a vascular system

Control over the direction of growth of new blood vessels is not enough to create a vascular system that can support blood flow, neither in the body nor in 3D bioprinted tissue. For that to happen, sprouts need to merge into fully functional blood vessels in a process called anastomosis (Moreira-Soares et al., 2018). A study by Moreira-Soares et al. (2018) found that certain oxygen levels of tissues can stimulate anastomosis. Specifically, they found that hypoxic tissues activate hypoxia-inducible factor 1 α (HIF-1 α), which in turn activates VEGF gene expression via an intracellular pathway. This leads to a gradient of VEGF between hypoxic cells and pre-existing blood vessels, which induces sprouting in the direction of the hypoxic cells (Freeman et al., 2020; Moreira-Soares et al., 2018). Once a sprout connects to another sprout or pre-existing blood vessel through

anastomosis, blood starts to flow through the new vessel (Moreira-Soares et al., 2018). Furthermore, Moreira-Soares et al. (2018) show that more functional and stable blood vessels arise when hypoxic cells keep secreting VEGF until anastomosis has occurred in their vicinity than if the hypoxic cells stop when a sprout approaches them. Thus, continuous hypoxic conditions can facilitate the creation of a functional vascular system. Han et al. (2019) support this by proving that exosomes, small membranal bubbles carrying molecules, created by cells in a hypoxic environment contain molecules that can prevent necrosis of avascular fat tissue. The molecules that prevented necrosis were substances that are essential to develop a functional vascular system and deliver nutrients and oxygens to struggling cells. Taken together, the results of Han et al. (2019) and Moreira-Soares et al. (2018) imply that creating a hypoxic microenvironment in 3D bioprinted tissue could stimulate the growth of functional blood vessels.

Earlier experiments by Min et al. (2015) and Kuss et al. (2017) support the hypothesis that (short-term) hypoxic conditions can be used to control the direction and amount of blood vessel growth in bioprinted tissue. Min et al. (2015) targeted the HIF pathway by inducing hypoxic conditions to mimic the normal response in the body to low oxygen levels and induce angiogenesis. They found a significantly higher number of functional blood vessels in the hypoxic areas of the bioprinted tissue. Additionally, the higher the concentration of hypoxia-inducing substances, the more angiogenic factors, such as VEGF, were expressed. This suggests that hypoxia-induced VEGF expression can increase the functionality of bioprinted vascular systems. A study by Kuss et al. (2017) supports this hypothesis by showing that culturing cells in a short-term hypoxic environment increased gene expression of angiogenic factors, such as HIF-1 α and VEGF. Furthermore, they confirmed that hypoxic cells grow significantly more distributed vessels with a higher number of erythrocytes, red blood cells that carry oxygen in the blood, than normoxic cells, which have access to normal oxygen levels. This finding agrees with the *in vitro* results of Han et al. (2019) in a 3D bioprinted setting. The combined results of Min et al. (2015) and Kuss et al. (2017) show that altering the oxygen levels cells perceive in 3D bioprinted tissues can positively influence the functionality of the developing vascular

system.

Printer settings

In addition to the molecular factors VEGF and oxygen levels, the process of 3D bioprinting itself can also influence the growth of functional vascular systems in bioprinted tissue. Specifically, Solis et al. (2020) found that external factors such as heat and shearing force, hereafter shear, can influence cell signalling and cell morphology. Firstly, the heat produced by the bioprinter affects the formation of larger vascular systems through regulating angiogenic factors. For example, Solis et al. (2020) found that cells that were printed onto a surface with a thermal inkjet bioprinter, which uses an increased temperature to ensure more control over the printing process, showed an increased expression of several pro-angiogenic proteins. These proteins include VEGF, interleukin IL-8 and heat-shock protein HSP-70, which induce and promote VEGF expression. The VEGF, IL-8, and HSP-70 set off signalling pathways that caused cells to become longer and stop proliferating, thus virtually mirroring the characteristics of a stalk cell. These elongated cells were consequently involved in the formation of vascular systems on the printing surface. Therefore, the upregulation of angiogenic factors and formation of vascular systems due to the heat produced by the bioprinter suggest that adapting the temperature of the bioprinted tissue could improve control over the formation of vascular systems.

In addition to the heat of the printer, Solis et al. (2020) hypothesise that the shear experienced by cells when pushed through the nozzle of the printer could lead to morphological changes in the cells, which could induce angiogenic pathways. This hypothesis is supported by earlier research conducted by Rivron et al. (2012), who found that morphological changes in tissue samples due to shear forces facilitated the formation of vascular systems. Specifically, they found that the deformation of the tissue led to an increased expression of VEGF in the deformed area, which in turn induced the formation of vascular systems. Additionally, tissue deformation caused a VEGF concentration gradient from the lowest level of shear to the highest. This could be applied to 3D bioprinting as an alternative method of producing the VEGF gradient

necessary to control the shape of a vascular system. Controlled shear in the system could be used in addition to, or instead of, a printed concentration gradient of VEGF, which has already been shown to increase the control of the spatial dimensions of a developing vascular system (Freeman et al., 2020; Poldervaart et al., 2014). The combined results of Rivron et al. (2012) and Solis et al. (2020) support that not only cellular properties, but also the techniques used during the printing process should be considered when developing improved techniques for 3D bioprinting vascular systems.

Conclusion

Bioprinting can, in principle, solve the problem of organ rejection in transplant patients, but progress has thus far been limited by the extent to which it can produce functional vasculature. As described above, there are two different approaches to solving the current problems regarding printing functional vasculature. The first approach suggests that intercellular signalling pathways, such as the VEGF pathway, can be employed to induce natural angiogenesis in 3D bioprinted tissues. This could be achieved either by inducing a VEGF gradient, by introducing hypoxic conditions in the 3D bioprinted tissue to promote anastomosis, or both. The current techniques to induce the VEGF signalling pathway are not yet able to grow complete vascular systems in large organs at a great enough rate. However, the results of various experiments imply that small alterations to these techniques, such as finding a better match between the material of the printing surface and the material for controlled VEGF-release, could improve our ability to create large vascular systems in 3D bioprinted organs. To complement such studies, research could be conducted on optimising the microenvironment of the 3D bioprinted tissue to allow quicker blood vessel formation, to make 3D bioprinting more clinically applicable.

The second approach to improving 3D bioprinted vascular systems is adapting the printer settings of the 3D bioprinter. This could lead to changes in the microenvironment inside the tissue, which can induce angiogenesis and the resulting vascularisation of the tissue. For example, the temperature of the materials and the shear cells are under can induce angiogenesis and affect the loca-

tion of angiogenesis, respectively. However, future research is needed to determine whether these two factors can be applied to 3D bioprinting to improve the spatial patterns and functionality of 3D bioprinted tissue. For example, the development of printing surfaces that can be deformed in specific patterns could improve the control researchers have over the spatial patterns of developing vascular systems. Another improvement would be to only heat the printing surface in areas where vascularisation is desired. Future studies could focus on incorporating these options into 3D bioprinting techniques to increase vascularisation and cell viability, thus improving our ability to 3D bioprint viable transplant organs. Overall, it is clear that existing knowledge of factors influencing the VEGF pathway can add an extra dimension to 3D bioprinting vascular systems, potentially eliminating the risk of the rejection of transplant organs.

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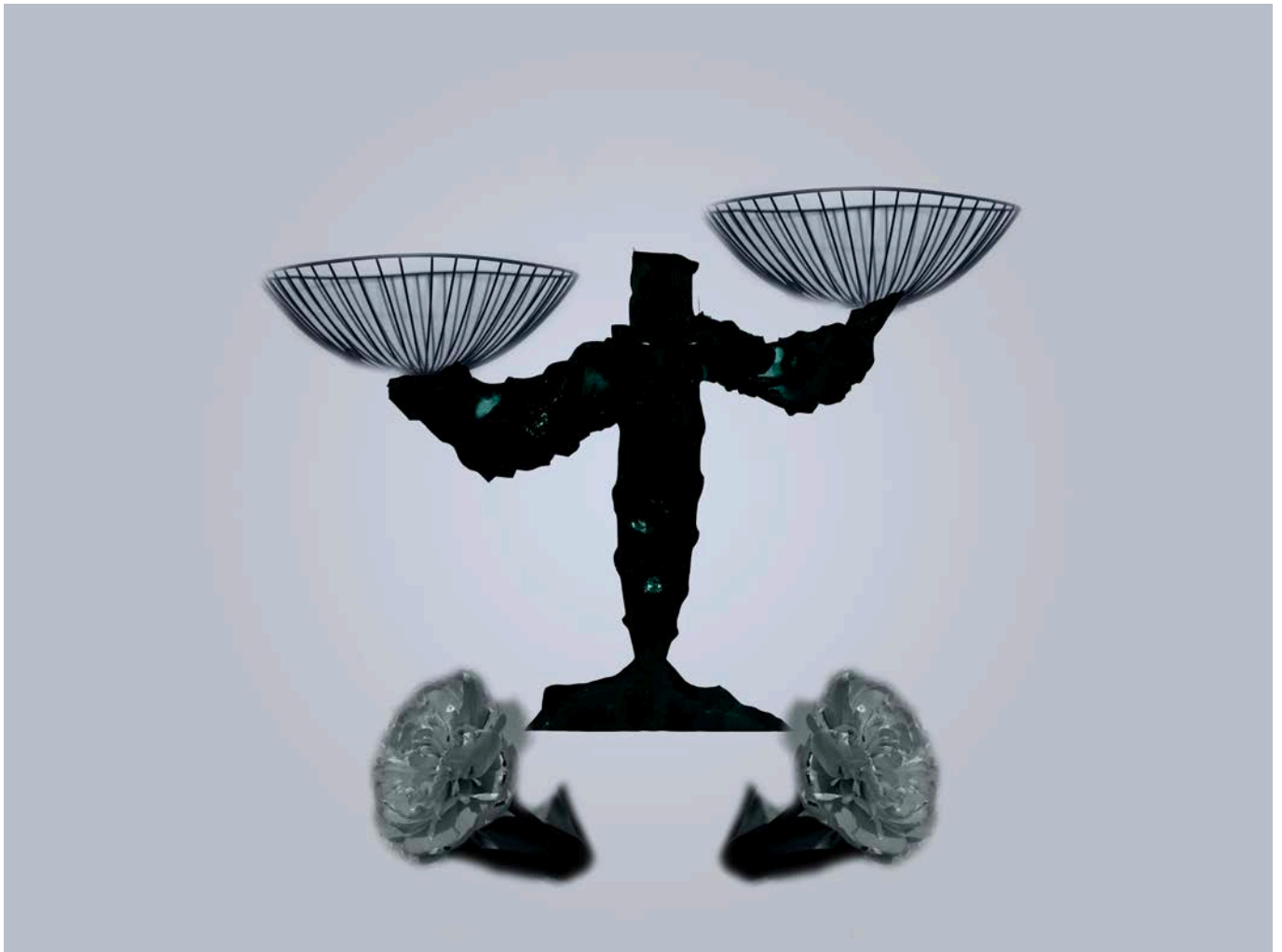
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Social Sciences

The Specific Deterrent Effect of the International Criminal Court

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Photographer: Sophie Kipper

Abstract

There has been much debate over the International Criminal Court's (ICC) ability to deter specific actors from committing additional human rights violations in ongoing conflicts. Although the ICC certainly aims for this effective deterrence by making use of a variety of different intervention strategies, their impact differs across cases. This paper elucidates that the efficacy of the ICC's specific deterrent power is partially conditioned upon the type of intervention tool it implements in a conflict. This is highlighted through an analysis of the case study of the Democratic Republic of the Congo, the first instance of a context to which all the judicial steps of the court were applied. Furthermore, the theoretical framework of the rational logic behind deterrence is expanded upon, as this paper applies the theory of bounded rationality to illustrate that the ICC is only effective when conflict actors are aware of their intervention. These findings imply that even though the impact of the ICC's intervention tools may be conditional, they remain capable of reducing some human rights atrocities in an ongoing conflict.

Keywords and phrases: *International Criminal Court, specific deterrence, conflict, intervention, prevention, Democratic Republic of the Congo*

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Introduction

The deterrent power of the International Criminal Court (ICC/the Court) has been a much-debated issue even before the formal establishment of the organization in 2002 (Mullins & Rothe, 2010). Aside from its main function to end impunity concerning genocide, war crimes, crimes against humanity, and crimes of aggression, it also tasked itself with preventing these crimes, as is emphasized in the Preamble of the Rome Statute. One tool to prevent these crimes is deterrence (Stahn, 2017). The Court's power, however, is limited, as it has few enforcement capabilities and relies largely on the cooperation of State Parties (Hillebrecht & Straus, 2017). As such, scholars have questioned the deterrent power of the Court, positing that the expectations of proponents are unjustifiably high and that the Court, much like its predecessors, the International Criminal Tribunal for the former Yugoslavia and International Criminal Tribunal for Rwanda, will fail to provide a substantial deterrent effect (Dietrich, 2014; Mullins & Rothe, 2010; Wippman, 1999). In the Court's defense, much criticism has been written within a decade of the Court's establishment - some of it even before the institution was established, and thus mostly lacks empirical evidence. Perhaps, then, a large number of scholars have been unwarrantedly harsh in accusing the Court of being incompetent. However, with the ICC nearing its twentieth anniversary and a growing number of court cases it is important to critically examine its successes and failures in deterring human rights atrocities.

The Court is considered to have two main tools to deter the occurrence of human rights violations: ratification and intervention (Dancy, 2017). Although the mere ratification of the Statute has often been blamed for impeding peace talks, the empirical evidence seems to depict a different story (Dancy, 2017; Jo & Simmons, 2016). Indeed, studies have shown that the act of ratification during a conflict is more likely to lead to peaceful negotiations than when the Rome Statute is not ratified (Appel; 2016; Jo & Simmons, 2016; Dancy, 2017). Moreover, State Parties are less likely to engage in violent conflicts and experience a significant decrease in overall intrastate violence. Nation-states that have ratified the Rome Statute have seen a significant decrease in asymmetrical warfare¹ and interstate conflicts

¹Asymmetrical warfare is a conflict in which the two combatting sides severely diverge in their military capabilities. It is often violence perpetrated by the government against

over time, whereas such violence remains prevalent in non-State Parties (Appel, 2016; Dancy, 2017; Jo & Simmons, 2016). Although ratification of the Statute does not eradicate all violence and is predominantly concerned with state actors (Hillebrecht, 2016), there is some empirical evidence to suggest that it deters the occurrence of human rights violations, at least to some extent.

The second tool, intervention, is more controversial. Therefore, this paper will solely examine the effectiveness of this tool's deterrent power. Intervention is much debated, with a substantial amount of literature providing inconclusive and contradictory evidence. Some authors proclaim that the intervention of the ICC is not merely ineffective, but that it exacerbates ongoing conflicts (Branch, 2011; Snyder & Vinjumari, 2003). Moreover, the ICC is accused of being easily weaponized by nation-states to eradicate their political opponents, preventing the possibility of sustainable peace (Branch, 2011; Thiemessen, 2014). Others, however, are cautiously optimistic about the intervention of the ICC, positing that the threat of possible prosecution has resulted in specific deterrence (Akhavan, 2009; Dancy, 2017; Simmons & Jo, 2016). The main aim of this paper is not to add to this discussion, but rather to assess the different intervention tools and their impact in ongoing conflicts. Doing so will allow for a better understanding of which intervention tools are most effective in which contexts, and will provide the Court with more tangible knowledge of the best means of action in future conflicts. Therefore, this paper answers the research question: how have the different intervention tools of the International Criminal Court been able to deter the presence of human rights atrocities in ongoing conflicts?

The paper will proceed as follows. First, this paper will identify the different relevant concepts of deterrence, delineating why specific deterrence is the most applicable form of deterrence for this paper's main aim. Then, the underlying assumption and logic behind specific deterrence—the rational choice theory—will be carefully examined to illustrate that perpetrators are not perfectly rational, but are bound by certain external factors. Consequently, the various intervention tools will be explored to emphasize that the Court is not merely a prosecuting threat, but also a normative institution. Lastly, the case study of the Democratic Republic of the Congo (DRC) will be analyzed to exemplify that the different smaller insurgent/rebel forces.

ences in the Court's effectiveness regarding specific deterrence partially depend on the intervention tools employed.

What deterrence?

There is a plethora of literature that is concerned with the International Criminal Court's deterrent power. As such, one must first distinguish and define the intertwined, yet different, concepts regarding the deterrence of human rights violations (Dancy, 2017; Mendeloff, 2018). Indeed, one must differentiate between three main concepts: compellence, general deterrence, and specific deterrence. The issue of compellence concerns the ability of the Court to put an end to ongoing human rights violations (Dancy, 2017; Mendeloff, 2018). Compellence is actively used by the Court to justify interference as most arrest warrants are issued when the conflict is still ongoing, such as the notorious cases of Kony, Al-Bashir, and Ghaddafi (Mendeloff, 2018). The evidence to substantiate that the ICC has a compellent effect, however, is slim, if not non-existent (Dancy, 2017). Moreover, Mendeloff (2018) posits that the only form of intervention that would have a successful compellent power is the stigmatization of low-ranking actors, which runs counter to the objective of the ICC to punish the worst, and most important, criminals (Cronin-Furman, 2013). As such, this paper shall not focus on compellence, for the Court's intervention tools are currently not able to promote this end.

There are two main forms of deterrence: general deterrence and specific deterrence. General deterrence is the ability of the Court to prevent the occurrence of war and other grave human rights violations (Appel, 2016; Dancy, 2017). Although the literature on this issue is probably the most comprehensive of all three concepts, the effectiveness of the ICC to generally deter actors from committing human rights atrocities is the most difficult to measure. To prove that the existence of the Court prevents human rights violations, one must deliver systematic empirical evidence of the opposite, namely that without the ICC there would be more cases of such violations (Appel, 2016; Dancy, 2017; Jo & Simmons, 2016). This, however, is impossible, for one cannot measure a hypothetical reality. Moreover, examining general deterrence is less relevant when it comes to the debate surrounding the effectiveness of the ICC's intervention in ongoing conflicts as it attempts to prevent exactly that. Although one

could hypothesize that intervention in ongoing conflicts, in turn, deters other actors from committing human rights violations, this goes beyond the scope of this paper. Thus, this paper shall solely examine specific deterrence.

Specific deterrence

Specific deterrence is defined as the ability of the Court to deter a particular individual from committing another crime (Cronin-Furman, 2013; Dancy, 2017; Mendeloff, 2018; Wippman, 1999). Its aim is thus not to prevent violence in a broad sense (general deterrence) but instead to target individuals in such a way that they are discouraged from committing additional human rights atrocities in current conflicts. This, however, is not the only definition of specific deterrence one can find in the literature. Indeed, other authors define specific deterrence as the aim to deter individuals who have explicitly been convicted, following the criminologist tradition of recidivist theory (Broache, 2014; Dietrich, 2014; Schense, 2017). This definition, however, is not as interesting to explore further in the case of the ICC, as none of the convicted criminals by the Court have been reinstated in positions in which they could inflict additional violence (Thompson, 2017). Nevertheless, this means that some authors refer to the Court's attempt to deter an individual from committing additional crimes as targeted deterrence instead of specific deterrence (Bosco, 2011; Dietrich 2014; Thompson, 2017). For the purpose of this paper, authors from both targeted and specific deterrence literature who adhere to this definition will be referred to in an examination of the effectiveness of the Court's intervention tools as both concepts rely on the same underlying logic.

The (contested) logic of specific deterrence

Although there are many strands within criminology, international relations, and strategic studies, the majority discusses the logic of the Court's specific deterrent power from the theoretical framework of rationality (Akhavan, 2009; Appel, 2016; Jo & Simmons, 2016; Kim & Sikkinks, 2012; Wippman, 1999). The rational choice theory assumes that all actors are rational beings. In short, it presupposes that individuals make decisions based on a logical examination, a cost-

benefit analysis, of all possible drawbacks and benefits of their given options in a situation (Appel, 2016; Dietrich, 2014; Kim & Sikkinks, 2012; Wippman). Applied to the context of the ICC and its specific deterrence, this means that there is an underlying rationalist principle in deterrence theory which assumes that for an individual to be deterred by the Court, the drawbacks of re-offending must outweigh the gains one can achieve by committing additional human rights atrocities (Appel, 2016; Cronin-Furman, 2013; Dietrich, 2014; Wippman, 1999).

However, the assumption that international perpetrators are rational actors has been questioned by several scholars (Dietrich, 2014; Mendeloff, 2012; Mendeloff, 2018; Mullins & Rothe, 2010; Wippman, 1999). Indeed, Mullins and Rothe (2010) criticize the rationality approach for categorically excluding any possibility for irrational-decision making, which they claim happens regularly. Moreover, Dietrich (2014) posits that international criminals' frame of mind is so vastly different from that of most individuals, that the rationality framework no longer applies, and that such individuals are thus not likely to be deterred by a strategy hinged on rationality. Finally, conflicts that concern the ICC often take place in states in which alcoholism, drug use, mental illness, irrational rage, and child soldiers are rampant problems, all of which generally create environments that do not encourage rational action (Akhavan, 2009; Mullins & Rothe, 2010).

Although this criticism is grounded in careful analysis, there are several issues with the contention that international criminals are not rational. Firstly, the criticism appears to extrapolate the logic of domestic deterrence to that of international specific deterrence (Dietrich, 2014; Mullins & Rothe, 2010). Even though there are definite similarities, as the rationality principle remains the same, the crimes are hardly comparable (Mullins & Rothe, 2010). One cannot, for example, equate murder to the four crimes with which the Court concerns itself. Genocide, war crimes, crimes against humanity, and crimes of aggression are carefully considered and planned out, they never occur 'in the spur of the moment' (Dancy, 2017; Kim & Sikkinks, 2010). Omar Al-Bashir, for example, went to great lengths to evade the Court, and purposefully enlisted non-government officials to inflict violence to circumvent command responsibility and subsequently the Hague (Bueno, 2017). Although one could find instances of actors who acted less than rationally, such as certain individuals dur-

ing the Rwandan genocide according to Mullins and Rothe (2010), these are not perpetrators who would be tried by the Court. Instead, the Court prosecutes the most important perpetrators (for example., leaders of a genocide). These perpetrators are nearly always rational individuals who carefully prepare and consciously incite violence in such a way that can be considered anything but irrational (Akhavan, 2009).

Scholars on both ends are correct to a certain extent. It is problematic to maintain that perpetrators who commit such horrendous crimes are irrational actors, yet it is also improbable that these individuals consistently calculate the costs and benefits of their options. To bridge this gap, then, scholars have applied Simon's (1947) concept of bounded rationality to the field of deterrence (Jo & Simmons, 2016; Wippman, 1999). The theory of bounded rationality implies that actors are not perfectly rational and posits that one's actions are partially conditioned by the amount of information one has available and by one's mental capacities. Moreover, the theory recognizes that people also incorporate societal pressure when making a decision (Wheeler, 2020). With this understanding, this paper assesses that the Court should not merely focus on deterring individuals with the threat of prosecution, but also utilize its "social deterrent" power (Jo & Simmons, 2016).

Intervention tools: A literature review

The Court has no police force and is thus largely dependent on the executive power of nation-states (Hillebrecht & Straus, 2017). Nevertheless, the Court has several intervention tools, namely the power to conduct preliminary examinations, launch investigations, issue indictments, and arrest warrants, and try perpetrators ("About the ICC"). These deterrent tools are imposed to deter the individual by threatening prosecution. As such, this form of deterrence has been coined "prosecutorial deterrence" by Jo and Simmons (2016). As of December 2020, the International Criminal Court has 13 active investigations, 10 preliminary examinations, 35 arrest warrants, 28 cases, and seven perpetrators in custody ("The Court Today", 2020). One could question, based on the principle of bounded rationality, whether the verdicts, ranging from several acquittals to a single 30-year imprisonment, are perceived as harsh enough penalties by poten-

tial offenders (Hillebrecht & Straus, 2017). Recent literature, however, suggests that it is not the severity of the punishment that deters individuals, but the swiftness and probability of the punishment (Jo & Simmons, 2016; Kim & Sikkinks, 2010). Although it took the Court a decade to deliver its first verdict, it has since proceeded at a faster pace, intervening more frequently (Dietrich, 2014; Hillebrecht, 2016).

Consequently, several authors have examined the Court's specific deterrence capabilities. It must be noted that their findings depend on how they define "successful" intervention (Meernik, 2015). Most quantitative studies use the prevalence of civilian deaths as a measurement of the effectiveness of the Court's intervention (Dancy, 2017; Hillebrecht, 2016; Jo & Simmons, 2016; Sikkinks, 2012). The civilian death rate is considered to be the most objective measurement, which investigates whether the Court accomplishes minimum specific deterrence. These studies generally find a more positive, or at least non-negative, effect of ICC intervention. Dancy (2017), for example, found that in Kenya and Uganda, the Court's intervention overall resulted in a decrease of asymmetrical violence. Nevertheless, in the Central African Republic, the converse was found to be true; Dancy (2017) suggested that this could be a result of the intervention tools used and the different circumstances in the two cases. Indeed, Kim and Sikkinks (2012) found that the prevalence of indictments as an intervention tool is significantly related to lower levels of state violence. Moreover, Hillebrecht and Strauss (2017) noted that indictments are a better deterrent when they concern a perpetrator who is opposed by the state than when the indictment regards members of the government itself. Jo and Simmons (2016) suggested that militias and rebels are more susceptible to concrete actions, such as arrests and convictions than mere threats.

Although some studies have deemed the Court's deterrent effect dissatisfying, there seems to be no data to suggest that the Court's intervention systematically exacerbates ongoing conflicts (Dancy, 2017; Jo & Simmons, 2016; Kim & Sikkinks, 2010). Moreover, if the threat of prosecution is incapable of deterring individuals, some authors argue that the mere stigmatization, a process that happens when the Court publicly labels an actor as a human rights violator, is sometimes a sufficient deterrence tool (Akhavan, 2009; Sikkinks, 2012). In essence, the Court functions as an international standard, imposing

human rights norms. Jo and Simmons (2016), fittingly, labelled this "social deterrence", which emphasizes the importance of the Court's social factor, as the institution can be used to oppose (other) institutionalized norms in regions where it interferes. Stigmatization can especially be imposed through arrest warrants and indictments, which label certain actors as criminals and in turn are meant to isolate them from support. Indeed, in the case of Uganda, Sudan nearly immediately terminated its funding and support for the Lord's Resistance Army (LRA) after the Court issued arrest warrants to Kony, Otti, Lukwiya, Odhiambo, and Ongwen (Akhavan, 2009).

Although some quantitative studies have shown a significant deterrent effect of the Court, they remain inconclusive and broad, as it is a complex process to measure the level of success of deterrence. Thus, it is of interest to examine a case study in detail to understand which intervention tools had a deterrent effect in this context, and which exacerbated the conflict. In the following section, this paper shall assess the case study of the Democratic Republic of the Congo (DRC). The rationale behind this choice is that the case of the DRC is the first to undergo all possible judicial steps, which have been finalized some time ago, allowing for time to pass before analysis and making it a valuable case study (Parmar, 2017). Moreover, the DRC is not only a State Party to the Rome Statute, but the country also referred its case to the Court, which, according to the literature, should increase the deterrent effect (Hillebrecht & Straus, 2017; Meernik, 2015; Mullins & Rothe, 2010). As such, this paper shall examine the effects of several ICC intervention tools in the DRC and analyze whether these, as some authors proclaim, exacerbated the conflict, or significantly deterred individuals from committing additional human rights atrocities.

The Democratic Republic of the Congo

The ICC first launched its preliminary examination into the situation in the DRC in 2004, when the state referred its own case to the Court ("The Court Today", 2020). The then-president of the DRC, Joseph Kabila, requested the ICC to formally investigate the possibility of the occurrence of war crimes and crimes against humanity during the Second Congo War and the subsequent conflicts in Ituri between several militia groups and the State (Hillebrecht & Straus, 2017). As of

2020, one perpetrator is in custody (Ntaganda), one suspect remains at large (Mudacumura), one individual has been acquitted (Chui) and there have been two finalized convictions (Lubanga and Katanga) ("The Court Today", 2020). This paper first examines the Lubanga case and analyzes the impacts of his judicial process, as he was the first individual to ever be convicted by the Court ("ICC First", 2012).

Thomas Lubanga Dyilo was the leader of the Union des Patriotes Congolais (UPC) and the founder of its military wing, the Forces Patriotiques pour la Libération du Congo (FPLC) ("ICC First", 2012). He was responsible for the enlistment of child soldiers throughout the conflict, for which he was arrested in 2006, and convicted for by the Court in 2012 ("The Prosecutor", 2017). He was sentenced to fourteen years in prison, which he partially served and completed in the DRC ("The Court Today", 2020). When it comes to the prosecutorial process, several authors posit that Lubanga's indictment and arrest led to a mixed reaction in the DRC (Dietrich, 2014; Kersten, 2012; Parmar, 2017). Data provided by Dancy (2017) clearly indicates a decrease in violence in the DRC from 2006 onwards. The results, nevertheless, are not as clear when one examines specific war crimes. For example, although there is no empirical evidence that there was, in fact, a decrease in the conscription of child soldiers, several warlords stated that they did fear that they would meet the same faith as Lubanga (Kersten, 2012; Parmar, 2017). The Congolese army, moreover, did show a significant commitment to cease the enlistment of children into the official army starting the investigations and indictments into Lubanga (Lam, 2014; Parmar, 2017). This, perhaps, depicts the workings of social deterrence rather than prosecutorial deterrence. Indeed, interviews show that the ICC's investigation led to the widespread awareness of the immorality of conscription of child soldiers (Parmar, 2017). As such, per the principle of bounded rationality, actors should feel increasingly deterred to enlist child soldiers, as was the case to a certain extent in the case of the DRC, for warlords increasingly feared prosecution and backlash (Broache, 2014).

Overall, Dancy (2017) found there to be a downward trend of asymmetrical violence in the DRC since the intervention by the Court. The notable exception, however, is the year 2012. It is not insignificant that this coincides with the formal conviction of Lubanga. It is widely believed that Lubanga's conviction in 2012, unlike his ar-

rest (warrant), has led to an increase of violence against civilians (Broache, 2014; Dietrich, 2017; Kersten, 2012; Thiemessen, 2014). Although one cannot determine causality, Lubanga's conviction probably did lead to some retaliation by militias (Broache, 2014; Parmar, 2017; Thiemessen, 2014). However, his conviction came at the same time as Bosco Ntaganda's second arrest warrant, making it difficult to determine its exact effect. Nevertheless, the increase of violence in 2012 has been attributed by some authors as a result of both Ntaganda's come-up and Lubanga's conviction. Indeed, some individuals in the DRC felt it was unjust for Lubanga to be convicted of something that was common practice by the state (Parmar, 2017; Thiemessen, 2014). The Court's legitimacy, then, seemed to be questioned, as it was accused of politicization (i.e., taking sides) and thus some individuals felt like they had little to lose or gain, hampering the deterrent effect (Broache, 2014).

Next, this paper examines the case of Ntaganda. Bosco Ntaganda served as a General in several militia groups, such as Lubanga's FPLC, the M23, and the Congrès National pour la Défense du Peuple (CNDP), where he committed several war crimes and crimes against humanity, notably rape and sexual slavery ("Case", 2020). The ICC issued an arrest warrant for Ntaganda when he was still a member of the CNDP for his suspected war crimes while serving under Lubanga. Later, he was indicted with additional war crimes and crimes against humanity. He was sentenced to 30 years imprisonment, the longest of any convict ever ("The Court Today", 2020). Although the DRC had been relatively cooperative and supportive of the ICC's inquiries in Lubanga's instance, this was not the case with Ntaganda (Gegout, 2013; Hillebrecht & Straus, 2017). The government provided him with a high-ranking position in the army in 2009 after his arrest warrant and consequently sheltered him from the Court (Gegout, 2013; Thiemessen, 2012). However, as a result of incessant international pressure, the government began to see him more as a hindrance than an asset. Subsequently, they called for his arrest, which led to his defection and consequent submission to the ICC (Broache, 2016).

As with Lubanga, Ntaganda's arrest warrant in 2008 had little to no impact on the levels of violence in the DRC (Broache, 2016), which corroborates Jo and Simmons's (2016) hypothesis that militias are not deterred easily unless the Court acts concretely. Indeed, it is not likely that the arrest warrant at the time would have had

any deterrent effect, as the Court had accomplished virtually nothing by 2008 (Thiemessen, 2014). Moreover, many militias were not aware of the outstanding arrest warrant (Broache, 2016). The CNDP purposefully did not announce the warrant because they feared their members would be threatened by the interference of the Court (Broache, 2016). As per the logic of bounded rationality, this impeded the (social) deterrent effect of the Court. Ntaganda's second arrest warrant, however, did lead to high levels of violence, but this is thought to be due to the combined effect of Lubanga's conviction (Broache, 2016). Bosco Ntaganda's actual arrest led to significantly lower levels of violence, as the M23 movement disintegrated (Broache, 2016; Nangini, Jas, Fernandes, and Muggah, 2014). Even though one could suggest that the halt in violence was because of other circumstances, interviews conducted with M23 members highlight that the group nearly ceased to exist as a result of mass defections, because members were scared of repercussions from the Court (Broache, 2016). Thus, the cases of Lubanga and Ntaganda both illustrate how the Court is able to, at times, specifically deter individuals, provided the actors involved are aware of their presence and threat. Moreover, it exemplifies the necessity for the Court to utilize both social and prosecutorial deterrence to counter the normalization and prevalence of human rights violations in ongoing conflicts.

Conclusion

This paper analyzed the effectiveness of the Court's intervention tools, specifically in the case of the DRC between 2004 and the present. As expected, the effectiveness of the Court's intervention tools to impose specific deterrence conjure mixed results. Firstly, although arrest warrants seem to do little for the ongoing conflict and its victims, this is partially conditioned by the fact that many people seem to not be aware of them (Broache, 2016). In the Lubanga case, individuals were aware of the warrant, and the conscription of child soldiers has since gone through a denormalization process (Lam, 2014; Parmar, 2017). In the case of Ntaganda, however, people were not aware of the warrant, and as per the principle of bounded rationality, specific deterrence was limited. Secondly, there is a marginal association between the actual arrests of Lubanga and Ntaganda and a decrease in human rights atrocities.

Nevertheless, the Court still depends on the cooperation of states to have an effective specific deterrence effect, as we have seen in the case of Ntaganda, where the lack of cooperation on the part of the DRC restricted the Court's deterrent impact.

When it comes to specific deterrence in general, there seems to be a positive shift in the literature. The initial harsh criticism of the Court appeared to be unfounded after having been tested against concrete data, illustrating that violence decreases in nearly all cases where the Court interferes. Nevertheless, differences in cases remain, and the Court's tools are not always equally effective. This paper has illustrated that it is not satisfactory to examine the outcome of the entire judicial process of the Court, as it tells us little about the effectiveness of the Court's tools throughout the process. Instead, one should closely analyze the distinct phases of the Court's intervention and measure the concrete impact of each tool. Thus, as the generalizability of this case study is minimal, a comprehensive quantitative study that carefully delineates between the several intervention tools and their respective impact across all of the Court's cases is needed to draw further conclusions. This, then, could enhance our understanding of the workings of the Court and consequently, perhaps, preserve life.

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Social Sciences

"Enem(ism)"

exploring the interdiscursivity of masculinity and feminism in the #MeToo era

Salomé Petit



Photographer: Aniketh Khutia

Abstract

In 2017, the #MeToo movement started a public discussion about the magnitude of sexual violence against women. While feminists celebrated the newfound visibility of sexual violence, many 'angry men', baptised masculinists, perceived the movement as an attack on their male identity. Through critical discourse analysis, this paper engages with the #MeToo debate by analysing the interdiscursivity between masculinism and feminism on the subject of sexual violence. It was found that masculinism positions itself in opposition to feminism while utilising competitive victimhood to maintain male privilege in face of a growing feminist movement, threatening the feminist project for gender equality. Since masculinism threatens the feminist project for gender equality, this paper aims to contribute to the understanding of the movement through a novel analysis of its discourse.

Keywords and phrases: *Masculinism, Feminism, Interdiscursivity, Competitive Victimhood, Sexual Violence.*

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Introduction

Brock Turner was a student-athlete on scholarship at Stanford when he was accused of sexually assaulting an unconscious woman behind a dumpster in 2016. As a white, upper-middle-class man, Turner is not the traditional embodiment of victimhood. Yet in a letter addressed to the judge presiding over the case, Turner's father wrote: "His every waking minute is consumed with worry, anxiety, fear, and depression" (Turner, 2016, p.1). The statement went viral and brought to feminist attention the crescent narrative of male victimization (Manne, 2018; Marwick & Caplan, 2018; Nealon, 2000; Sullivan et al., 2012). Throughout 2017, similar high-profile sexual violence cases flooded news headlines as a Twitter campaign, the #MeToo movement, urged women to come forward with their own stories of sexual harassment or assault (Bettinger-Lopez, 2018)¹. The staggering accusations over social media aggravated the growing community of men's rights activists (MRA), who saw the #MeToo campaign as an attack on their male identity (Flood, 2019). Blais and Dupuis-Déri (2012) examined the MRA backlash that followed the #MeToo upheaval. They found that responses were characterised by a portrayal of men as "victims of feminist struggles" (p.23). Masculinism, as Blais and Dupuis-Déri (2012) baptized MRA's reactions, has not been widely conceptualized in academia, however, it has been described by scholars Gotell and Dutton (2016) as the belief that men are disadvantaged in a society dominated by feminist values². Research into the movement is press-

¹On October 16th 2017, the actress Alyssa Milano posted on Twitter: "If all the women who have been sexually harassed or assaulted wrote 'Me too.' as a status, we might give people a sense of the magnitude of the problem," following an activist movement founded by Tarana Burke in 2006 (Bettinger-Lopez, 2018). Over the next months, the #MeToo hashtag went viral. Thousands of women shared their sexual assault and harassment stories, bringing an unprecedented visibility to the magnitude of sexual violence against women (Boyle & Rathnayake, 2019).

²"Masculinism asserts that since men are in crisis and suffering because of women in general and feminists in particular, the solution to their problems involves curbing the influence of feminism and revalorizing masculinity. Masculinism focuses primarily on masculinity and the place of white heterosexual men in North American and European societies. Yet, it is concerned as well with the supposed ramifications of feminism and the alleged domination of women in both the public and private spheres". (Blais & Dupuis-Déri, 2012). For literature see also: Marwick & Caplan

ing, not because the narrative of male victimization is powerful in itself, but because it becomes threatening when put in competition with feminists' narratives of female disadvantage. This phenomenon is known in conflict studies as competitive victimhood (CV), a conceptual tool for understanding how antagonist groups compete for the status of victimhood. Feminists are concerned that the male victimization discourse can distort discussions on rape culture (Allan, 2016; Boyle & Rathnayake, 2019; Coston & Kimmel, 2013; Gotell & Dutton, 2016; Marwick & Caplan, 2018) and "move the mainstream in regressive, antifeminist directions" (Gotell & Dutton, 2016, p. 71). To contribute to the lack of scholarly understanding of the movement, this paper analyzes male victimization rhetoric through its use of CV, tracing the interaction of masculinism with the feminist debate on sexual violence and providing insight into the impact of the movement on gender equality. Through critical discourse analysis (CDA), this research examines an article from A Voice For Men, a men's rights online site, to answer the following questions: How does the masculinist discourse interact with the feminist debate on sexual violence in the #MeToo era? What impact can it have on gender relations?

Methodology

This research engages with masculinism through two models of CDA. On the one hand, it relies on Fairclough's (1992) model, which is composed of three levels of analysis. The first is discourse, which interprets the broader context in which the object of analysis is produced. The second is the analysis of the body of text and its main features. The third involves the sociocultural practices which contextualize the abstract structures of discourse and text into everyday society (Chouliaraki & Fairclough, 2007, p. 21).³ This paper is particularly interested in the interdiscursivity function of Fairclough's (1992) CDA. Interdiscursivity studies the interaction of different discourses within the same text (Wu, 2011). In essence, the analysis is concerned with the

(2018); Farrell et al. (2019). For examples read: Kay (2014); Schoenewolf (2017) or West (2013) for a satirical take on the movement.

³See detailed criteria for each level in Appendix 2.

identi[[U+FB01](#)]cation of and, more importantly, the interaction among different discourses within particular texts, for instance through linguistic characteristics such as metadiscourse (discussion of a discussion) or irony. It is a useful tool for understanding how, through their own rhetoric, masculinists indirectly interact with feminist discourse. This paper also introduces a feminist CDA approach (Lazar, 2007) to study the relation between discourse and power, an essential dimension that examines how discourse can contribute to sustaining structural inequality. On the whole, the discourse analysis of this research traces how masculinism intersects with debates about feminism, gender, and sexual violence within the text and beyond it, in social practices. This framework provides the conceptual background for the analysis of the masculinist discourse expressed in the text from an article—Trump to woman, “Sit down”—in *A Voice For Men* (AVFM), the most visited men’s rights site online (Boyle, & Rathnayake, 2019).⁴

Analysis⁵

Discourse

To echo Foucault (1972), discourse is produced, circulated, and consumed. The article this paper explores, titled “Trump to woman, sit down” (Dent, 2018), circulates within the ambit of *A Voice For Men* (AVFM). AVFM is the most visited men’s rights site online (Boyle, & Rathnayake, 2019). The author of the article can be described as what Allan (2016, p.24) classifies as “angry men”⁶: the middle-aged, privileged, white male who indulges in the narrative of self-victimization. The growing representation of privileged men as victims sets forth a curious interplay. The masculinist project, as its name suggests, focuses on revalorizing normative conceptions of masculinity; powerful and unemotional (Blais & Dupuis-Déri, 2012). Therefore, claiming a victim stance seems contradictory, as traditionally, victims are deprived of agency (Kahalon et al., 2019). Nevertheless, the masculinist movement recognizes the value of

labelling themselves as the victims of feminism (Flood, 2019). The movement’s followers do not individually self-victimize, but consume collective narratives of male victimization thereby allowing them to acknowledge the victimhood of their group without having to publicly acknowledge their own (Oaten, 2014; Sullivan et al., 2012).

Flood (2019) interprets male victimization as a “response by members of a dominant group who feel threatened by challenges to their privilege by disadvantaged groups” (p. 290). Recent studies on CV expand on this reasoning (Kahalon et al., 2019; McNeill et al., 2017). Research by Sullivan et al. (2012) shows that when a high-status group is accused of harming a low-status group, it poses a threat to the group’s moral standing. In response, members from the high-status group will defensively engage in CV to restore their moral high ground (ibid.). Thus, CV becomes the central tenant of masculinist political discourse and turns it into a dangerous community-building tool. It not only legitimizes individual grievances, but it recognizes them as group harms, thereby justifying collective action against the assailant – in this case feminism.⁷

Applied to the context of CDA, CV becomes a useful conceptual tool to interrogate the interdiscursivity between the feminist and masculinist discourse. Asking questions such as “how does the masculinist discourse engage with the feminist debate?” can help us locate how the two discourses intersect. CV could present a barrier to changing gender relations towards greater equality, as it holds the power to subvert the feminist narrative for the restoration of male dominance.⁸ As such, the choice of language in masculinist discourse can yield insight into the overarching aim of the movement and reveal its actual danger.

⁷For more literature on competitive victimhood and group identity see Solomon, J., & Martin, A. (2019). Competitive victimhood as a lens to reconciliation: An analysis of the black lives matter and blue lives matter movements. *Conflict Resolution Quarterly*, 37(1), 7–31. <https://doi.org/10.1002/crq.21262>.

⁸Fairclough’s (2007) system of CDA in social sciences calls for the problematization of the social issue at hand.

⁴Dent, M. (2018, October 4th). Trump to woman, “Sit down” – *A Voice for Men*. <https://avoicemen.com/featured/trump-to-woman-sit-down/>

⁵For a step-by-step understanding of the analysis used, refer to Appendix 1.

⁶See also Kimmel, M. (2013).

Text

Transivity

The article's title, "Trump to woman, sit down" (Dent, 2018), is a provocative statement directed at women. This makes the conflictive tone palpable from the onset. The author positions men as the victims, constructing a binary opposition in which women are the perpetrators. On the one side, it celebrates men with adjectives such as "exemplary, real, and funny". On the other, it depicts women as perpetrators, describing them as "rabid, arrogant, violent, and man-hating". Attacks against well-known feminists such as Whoopi Goldberg, Michelle Obama and Jeffrey Toobin are followed by words such as "lie, ignores, insane, and unsubstantiated", personifying the antagonistic 'other' through ad hominem attacks. Conversely, references to Donald Trump and his son include the words such as "obvious", "reasonable", and "justifiable". The author does not engage with statements from feminists but plays to the credibility of the subjects, dismissing their statements via personal attacks or insults: "scumbag, coward, creep, sickening, and disgraceful". In this way, the author identifies 'the face of oppression', in this case feminists, in order to strengthen the 'us versus them' dynamic and further define the masculinist project in opposition to feminism.

Modality

After identifying the victim and perpetrator, Dent (2018) establishes the bone of contention. According to Fairclough (1992), certain words within a discourse can become a terrain of struggle. In the interdiscursivity of masculinism and feminism, these struggles materialize in the negotiation of the meaning of the words "sexual violence" and "victims". Asking the question "who are the real victims of sexual assault?" in this text turns the feminist rhetoric inside out, moreover subverting their narrative. Like Brock Turner's father, the writer appropriates feminist language when referring to men as the "real" victims of rape culture: "[men] have their lives and sometimes their bodies torn apart [...] the damage has been done" (Dent, 2018). This can be referred to as "diversion tactics" (Manne, 2018, p.86); the author undermines the effects of rape culture on women while exaggerating those on men by removing attention from the fem-

inist movement and building on the claim that men are the true victims of sexual assault allegations.

In addition, it is important to recognize the role of the intended consumers of the texts (Chouliaraki & Fairclough, 2007). Dent (2018) assumes that the reader will interpret the text through a masculinist lens. When placing the phrases "the headline [of the article] summed up the shocking new world we live in" and "the Brett Kavanaugh debacle has not revealed anything we didn't already know about the current status of men and women" in a feminist text, their meaning drastically oscillates from one movement to the other. While the article refers to the Kavanaugh debacle as representative of a world where innocent men are falsely being accused of sexual assault, feminist texts condemn the Kavanaugh trial as another case of impunity and victim-blaming. This is what Foucault (1972) observes as "discursive formation" (p. 115): the meaning of words and phrases is dependent upon their context and author. The interchangeability of meanings highlights the intersection and opposition of the two discourses. In definitive, the entanglement of both discourses does not solely reveal its interdiscursivity but also the concurrent masculinist appropriation of feminist rhetoric in an attempt to assert the group's victim status.

Affective politics

To reinforce claims of male victimhood, Dent (2018) relies heavily on emotional language. This manipulation tactic is commonly used, as feelings or affect cannot be denied. It is interesting to note that this text, like many others on the AVFM website, utilizes rhetorical moralization, presenting masculinism as a moral movement against the 'evil' feminists. For instance, false sexual allegations by women are seen as an attack not only on the accused but also on his family. The text references Donald Trump Jr. being worried about his sons: "Trump's son spoke out about his fears for his sons in this world where people who are accused of sexual assault are presumed guilty before a shred of evidence has been presented to corroborate the charge." Similarly, during the Kavanaugh hearing, the #HimToo movement interpreted Ford's allegations not only as an attack on the candidate but also on his family name, affecting his wife, his daughters and his parents (Boyle

& Rathnayake, 2019).⁹ Trump (2018), in a speech mentioning Kavanaugh's hearing, expressed: "A man's life is shattered, his wife is shattered, his daughters [...] who are young kids, they destroy people". Through these statements, masculinists use the attack on "our men, sons, brothers and fathers" and "white, middle-upper class, heteronormative families" to claim moral superiority and draw sympathy towards the accused. Moreover, aggressive and violent language is a salient feature in the text. The repetition of words like "attack" and "suffering", or graphic lines such as "exemplary men can be caught up in this hideous web and have their lives and sometimes their bodies torn apart on the basis of nothing but allegations" and "ripping his flesh and blood from his life" are not innocently hyperbolic. In fact, they mobilize men's fears and anxieties of living in a seemingly "frightening reality of the hatred of men" (Dent, 2018), and encourage them to join the movement against feminism.

Finally, several references to race throughout the text are worth mentioning. Parallels are drawn between lynch mobs and feminists defending sexual violence victims. This is a common comparison in masculinist circles. During the Kavanaugh hearing, many masculinists compared the process to the 'high-tech lynching' of Clarence Thomas, a previous black Supreme Court candidate who was also accused of sexual misconduct (Michael, 2018). Furthermore, a reference to *To Kill a Mockingbird* (Lee, 1960) was made in another article published on AVFM titled "All Men are Tom Robinson Now" in which the author, Dean Esmay (2016), compared the contemporary misfortune of white men at the hands of feminists to those suffered by the character Tom Robinson, a black man falsely convicted of raping a white woman. These narratives build white males into external systems of racialized oppression to strengthen their narrative of victimization.

⁹Dr. Christine Blasey Ford is an American professor of psychology at Palo Alto University and a research psychologist at the Stanford University School of Medicine. In 2018, she accused then Supreme Court Justice candidate, Brett Kavanaugh, of sexually assaulting her at a high school party. The accused was to stand a hearing to determine whether he would receive his candidature. Ford's allegations were deemed inconclusive and Kavanaugh went on to become Supreme Court Justice. For a deeper analysis of the Kavanaugh hearing see Boyle (2019).

Sociocultural practices

The previous analysis of the text identified CV as the main tool to study masculinist and feminist interdiscursivity. Throughout the text, Dent (2018) utilizes CV in four ways: binary opposition, appropriation of feminist language, affective language, and finally, the allusion to systems of oppression.

First, the binary opposition depicts men as the victims of women and feminism, labelled as the perpetrators. Research by Sullivan et al. (2012) found that claiming the innocent victim status allows a group to defend their moral identity when it comes under attack. The staggering accusations that stemmed from the #MeToo campaign challenged male advantage and strengthened the feminist project for equality. Faced with the prospective loss of privilege at the hands of feminists, masculinists claim a victim stance, turning the narrative inside out, what Manne (2018) calls a "moral role reversal" (p. 201).¹⁰ Masculinists are not passively adopting a victim stance but do so in an active effort to regain discursive power over feminists in the public debate on sexual violence (Kahalon et al., 2019).

Moreover, interdiscursivity reveals a masculinist appropriation of feminist language, possibly another attempt at taking up space in the public discussion, a type of 'manspreading' if you will. In the words of Allan (2016), the masculinist discourse "aims to make issues "larger," hoping that their claims will somehow "take up more space" in the political, legal, cultural, and academic discourse, and will ultimately "yield less room to competing discourses" (p. 28).

The use of affective language further reinforces masculinist claims. An appeal to familial connections and the exemplary character of accused men attempts to draw sympathy towards usually white, wealthy, and heterosexual men. This is a recurring phenomenon that Manne (2018) has described as "himpathy"¹¹ (p. 204), which, in cases of sexual violence, "effectively (makes) him into the victim of

¹⁰This is often a mechanism that Manne (2018) suspects gives rise to victim blaming in sexual assault cases.

¹¹"The inappropriate and disproportionate sympathy powerful men often enjoy in cases of sexual assault, homicide and other misogynistic behaviour". She continues: "the higher a man rises in the social hierarchy, the more himpathy he tends to attract. Thus, the bulk of our collective care, consideration, respect and nurturing attention is allotted to the most privileged in our society." (Manne 2018, p. 204).

his own crimes" (p. 201).

Finally, the text draws parallels between men and external systems of oppression, for example, comparing feminists to lynch mobs, recurring use of violent language, or alluding to racial oppression. Linking racial oppression to the 'oppression of all men' should not be understood as indicating a political stance but rather as an attempt to prove the oppression of men at the hands of feminism, ironic given that most masculinists are white (Kimmel, 2013).

The findings confirm that masculinism interacts with feminism in two ways. First, this paper found that the masculinist movement stands in opposition to the feminist movement. Dent's (2018) article, much like the masculinist movement, does not present any ideology but instead merely voices its opposition to feminism. Similarly, the text does not touch on the topic of sexual violence but serves to vilify feminism and place men as the victims in an attempt to gain sympathy. Thus, it is difficult to classify masculinism as an activist movement, as it argues against feminism instead of lobbying for the 'rights of men'. This is what Mottl (as cited in Solomon & Martin, 2019) classifies as a countermovement, described by Blais and Dupuis-Déri (2012) as striving to "block or reverse certain gains of the feminist movement while present[ing] themselves as a progressive project founded on justice and equality" (p. 29). Moreover, the masculinist movement also manifests a restructuring objective in that it attempts to reshape sociocultural practices by undermining the feminist project for gender equality and appealing to the restitution of male dominance. When men's largely unquestioned entitlement in sexual violence came under scrutiny with the #MeToo campaign, masculinists resorted to spreading anti-feminist beliefs in male disadvantage (Kimmel, 2013). Feminists' relative success in reshaping the conversation around sexual violence has pushed masculinists to take a victim stance to restore "patriarchal forms of manhood" (Flood, 2019, p. 291), and, to the fear of feminists, steer the conversation "in regressive, antifeminist directions" (Gotell & Dutton, 2016, p.71). Masculinism, therefore, constitutes a countermovement for the preservation of patriarchy. This suggests that the movement's rhetoric is not necessarily about gender relations but about power.

Conclusion

Through a critical discourse analysis, this research set out to explore the interdiscursivity of the feminist and the masculinist movements around the debate on sexual violence against women. The analysis found that the main way in which masculinism interacts with feminism is through CV. Hence, masculinist discourse places the movement in opposition to feminism and reveals its aim of perpetuating male privilege. CV is a powerful community-building tool which has made the masculinist movement expand and attract men who struggle to find their place within feminism. There is a real danger that masculinist use of CV around the subject of sexual violence can erode feminist influence. However, CV also constitutes a resolution. Extensive research in conflict management has proved that CV can be overcome (McNeill et al., 2017; Noor et al., 2012; Nurit et al., 2013). Therefore, future research should explore mechanisms to dismantle the CV between movements by opening up the conversation about the place of men in the #MeToo era. This study has only focused on one aspect of the MRA movement – its discourse on sexual violence against women – therefore, the representation of the movement is limited. Nevertheless, this research has contributed to the limited understanding of masculinism in academia, deconstructing its discourse on sexual violence through an innovative CDA centred around interdiscursivity and CV. Although feminist concerns about masculinism are not unfounded, this research puts forth an opening for resolution: by demolishing CV, masculinism no longer presents a barrier towards greater gender equality. In fact, at its core, the masculinist movement was initiated to protect men's rights in sexual violence allegations which falls in line with feminist objectives: equal rights for men and women.

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Social Sciences

Stigma Toward Sex and HPV Vaccine Uptake in the Netherlands:

A mixed-methods cross-sectional analysis

Zohar Preminger



Photographer: Sophie Kipper

Abstract

Introduction: Human papillomavirus causes a heavy burden of preventable disease in the Netherlands, which remains difficult to tackle given low rates of vaccination. Stigma toward sex has been noted as a cause for lower vaccination, although never in the Dutch context.

Methods: The present study utilizes a mixed-methods approach to construct and analyze a questionnaire distributed in a small sample of Amsterdam University College students to compare findings with previous literature and to apply the data to the Health Stigma and Discrimination Framework (HSDF).

Results: Agreement with statements of sexual stigma are associated with foregoing vaccination in the sample, likely driven by a belief that the vaccine is only suitable for older, promiscuous individuals. These are partially applied to the HSDF as drivers of stigma, resulting in lower vaccine coverage.

Conclusion: Sexual stigma deterring HPV vaccination has been found in a highly educated, left-leaning sample of Dutch university students in Amsterdam. Low HPV vaccination rates are observed across the Netherlands, and it is expected that this same stigma is a contributing factor nationwide. Therefore, negative perceptions must be tackled by future interventions.

Keywords and phrases: *human papillomavirus, HPV vaccination, vaccine hesitancy, stigma, sexually transmitted infections*

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Introduction

Human papillomavirus, better known as HPV, refers to a group of over 100 sexually transmitted viruses that can cause genital warts or cancer in the throat, anus, cervix, vulva, or penis.^{1–3} Fortunately, a vaccine that provides immunity against the major cancer-causing strains of the virus exists, but its coverage is low throughout Europe.^{4–7} In the Netherlands, every year nearly 1,500 people across the country are diagnosed with HPV-caused cancer, and approximately 500 die as a result.⁸ The burden associated with HPV is higher than for any other infectious disease, with a nationwide yearly loss of 10,600 years of healthy life for women and 3,300 years of healthy life for men (disability adjusted life years).⁹ Despite a wealth of research that highlights the benefits of vaccination, uptake has remained low, and the percentage of 12-year-old girls who accept the free, government-subsidized vaccine has remained stagnant at 53% in 2020, unchanged from 2016.^{6,10–16} This suboptimal rate warrants research to aid in HPV uptake interventions in the Netherlands.

There is a general scientific consensus that falling vaccination rates in Europe are influenced by religion, mistrust, safety and efficacy concerns.^{11–16} In addition, lack of scientific understanding, media misinformation, and suboptimal scientific communication contribute to the lack of confidence in vaccines.^{5,14,17} Specifically for HPV, the greatest factors leading to hesitation in accepting the vaccine are low perceived risk of HPV infection, low perceived direct benefit for boys, and stigma toward sex.^{18,19} Researchers have examined the role of this stigma in dissuading HPV vaccination in the past, and found that a connection between HPV vaccination and promiscuity or sexual activity greatly contributed to this hesitancy.^{20,21}

Notably, many of the factors contributing to vaccine hesitancy are context-dependent, and warrant an examination of mechanisms beyond the biological.¹⁷ While previous research has attempted to do this, Stangl and colleagues proposed the Health Stigma and Discrimination Framework (HSDF) in 2019²² to examine health stigma using a socio-ecological approach. Using this specific framework offers the opportunity to conceptualize sexual stigma and HPV in context with an optimal model.

Currently, the Netherlands is preparing to ex-

pand access to the HPV vaccine by offering it free-of-charge to children beginning at the age of 9.²³ This expansion of the Dutch National Immunization Program from its previous focus on promoting HPV vaccination in 12-year-old girls will likely be far more effective if policy-makers are equipped with a thorough understanding of how stigma toward sex serves to dissuade HPV vaccine uptake, and can tailor interventions to reduce this stigma.

This paper takes an essential step in informing HPV vaccine uptake interventions in the Netherlands by examining the impact of stigma toward sex on HPV vaccination rates in a small sample of the Dutch population and conceptualizing this stigma and its impact on HPV vaccination as it functions in the Dutch context using the HSDF.

Methods

This paper utilizes multiple methods to examine sexual stigma in the Netherlands and its effect on HPV vaccine uptake through the lens of the HSDF.

First, the paper provides a thorough review of the existing body of knowledge on stigma toward sex and its impact on HPV vaccination. Literature was collected using CataloguePlus, the digital library of the University of Amsterdam, using search terms including (but not limited to) “HPV OR human papillomavirus AND stigma”. Second, the paper analyses a survey of the attitudes toward sex and HPV vaccination of a small sample of Dutch nationals enrolled at or having graduated from Amsterdam University College. Seven scales were created based on previous research findings^{24–31} regarding sexual stigma and HPV. The survey was promoted via Amsterdam University College’s (AUC) student Facebook group (“The excellent and diverse people of AUC”) three times: on October 27th, 2020, October 30th, 2020, and November 3rd, 2020. The use of a survey was selected, rather than interviews, to gather a greater amount of data. Finally, the paper applies the HSDF to the Netherlands using the findings of the survey and previous literature. The layering of these methods allow for a small-scale application of theory to understanding stigma toward sex and its impact on HPV in the Dutch context.

Previous literature on stigma toward sex and HPV

Before an HPV vaccine hit the market in 2006, the United States Centers for Disease Control and Prevention sponsored 35 focus groups of parents that revealed widespread stigma toward HPV for its status as a sexually transmitted disease.²⁴ Parents shared that opting for vaccination against a sexually transmitted disease could serve as a signal that one is promiscuous or as approval of sexual activity for children.²⁴ Some parents went so far as to say that HPV vaccination was a decision dependent on lifestyle, most fitting for “prostitutes and promiscuous adults”.²⁴ In Lebanon, stigma around engaging in sexual activity before marriage caused many care providers to avoid conversations about the vaccine when it was first approved, as the sexual transmission of HPV intertwined the vaccine with the stigma, shame, and taboo of premarital sex.²⁵ This taboo has caused physician hesitation in vaccine recommendation to patients in parts of the Middle East/North Africa region, Asia, and conservative subpopulations in the United States.²⁵ A 2011 study revealed that parental discomfort with confronting the sexual transmission of HPV remained a barrier to vaccination in the West.²⁶

Discomfort, shame, and stigma surrounding HPV's status as a sexually transmitted disease were not limited to parents and children considering vaccination, but were also visible through HPV-positive individuals' reactions to diagnosis.^{27–29}

A number of studies have uncovered serious stigma and shame experienced by patients with a positive HPV diagnosis due to its nature as a sexually transmitted infection.^{27–29} One study showed that individuals who knew that someone's cancer was HPV-caused viewed this person as more morally disgusting, “dirty, unwise, and dishonest” than if the cancer had a different cause.³⁰ In the West, there seems to be a “tension between morality and sexuality” exemplified by the sex-related stigma toward HPV and HPV vaccination.³¹ While this pattern is well documented, as is the stigma toward sex, sexually transmitted infections, and the HPV vaccination, there has not been a careful examination of this stigma specifically within the Dutch context. Previous literature provides a starting point and offers examples of existing assessments of this stigma in a variety of other contexts, examples that the Netherlands should follow.

Survey Results

As literature to date yields no examples of quantitative surveys measuring sexual stigma toward HPV in the Netherlands, a novel questionnaire was created for this study. 77 individuals responded to the survey, of which 44 completed the survey entirely, 5 completed the survey partially, and 28 did not complete any questions beyond the consent. The mean age of all partial and complete respondents was approximately 20.5 years old, with a minimum of 18 and a maximum of 29 years of age.

All subjects were either current or former students of AUC, a residential, international college in Amsterdam. AUC is home to a progressive population of students, approximately half of whom are Dutch nationals. 16.3% (n=8) of respondents disclosed that their family had a migration background, 93.9% (n=46) were assigned female at birth and 89.8% (n=44) identified as women, 4.1% (n=2) identified as men, and 6.1% (n=3) identified outside of the binary.

Roughly three-quarters (71.4% n=35) of the respondents had heard of HPV before, 20.4% (n=10) had not, and 8.2% (n=4) were unsure. Previous knowledge of HPV was acquired through various channels among respondents: 12 mentioned having heard about HPV from their family, 12 from school, 8 from friends, 7 from media (news, television, internet, and radio), 4 from the government information campaign or vaccine invitation, and one from independent research.

Just over half of the respondents (53.1% n=26) disclosed that they had received the vaccine either entirely or partially, 30.6% (n=15) had not been vaccinated, and the others were either unsure or did not disclose their vaccination status. Of those vaccinated, 73.1% (n=19) reported being vaccinated before their 15th birthday (the upper cut off for a 2-dose regimen).

The survey asked a series of 0 to 4 point likert-scaled* questions to gauge respondents' attitudes and the attitudes of their parents and social environment toward a variety of stigma-, HPV-, and sexism-related statements. The answers were then analyzed using several scales (depicted in Figure 1). The scales were tested for their internal con-

*The likert was considered to be the best method for gauging agreement with the statements in this specific context, and therefore was chosen for this study.

Scale and corresponding items	Cronbach's Alpha
Sex-related reasons to forego HPV vaccination (respondent perspective)	0.863
<i>Only people who are already sexually active need to get an HPV vaccine.</i> <i>12 years or younger is too early to get a vaccine that protects against sexually transmitted disease.</i> <i>It makes more sense for someone to get the HPV vaccine shortly before becoming sexually active than several years beforehand.</i> <i>The HPV vaccine is not worth getting because there is a low risk of contracting HPV.</i> <i>Someone who intends to always use condoms or other barrier methods to protect themselves during sex does not need to get an HPV vaccine.</i> <i>If someone intends to forego sexual activity until marriage, there is no point in them getting an HPV vaccine.</i> <i>Only people who have had many sexual partners need to get the HPV vaccine</i>	
Parental view of sex-related reasons to forego HPV vaccination (respondent answering in their parents' perspective)	0.89
<i>If my child were to get the HPV vaccine, others would assume that my child is sexually active</i> <i>If my child were to get the HPV vaccine, others will think that my child is promiscuous or engaging in risky sexual behaviors.</i> <i>If I let my child get the HPV vaccine, they will be encouraged to engage in sexual activity earlier than they might have otherwise</i> <i>My child does not need to get the HPV vaccine because they will never engage in risky sexual behavior</i> <i>If my child expresses that they want to get the HPV vaccine, this means they are sexually active</i> <i>My child does not need to get the HPV vaccine because they will have one or few sexual partners in their lifetime</i>	
Sexist burden of HPV vaccination (respondent perspective)	0.905
<i>Only people with a female reproductive anatomy need to get the HPV vaccine</i> <i>People with male reproductive anatomy don't need to get the vaccine</i>	
Sexual stigma associated with the HPV vaccine (respondent perspective)	0.674
<i>Getting an HPV vaccine makes others assume that one is sexually active</i> <i>Getting an HPV vaccine makes others think that one is promiscuous or engaging in risky sexual behaviors.</i> <i>Getting an HPV vaccine encourages someone to engage in sexual activity earlier than they might have otherwise</i>	
Conversations about sex between parents and children	0.876
<i>Respondent perspective</i> <i>I was comfortable talking with my parents / guardians about sex at age 12</i> <i>I am comfortable talking with my parents / guardians about sex now</i> <i>Respondent answering from parent point of view</i> <i>I was comfortable talking with my child about sex when they were 12.</i> <i>I am comfortable talking with my child about sex now.</i>	
STI and premature sexual activity stigma from peers	0.800
<i>Respondent perspective</i> <i>If my peers, parents, or guardians thought I was engaged in sexual activity at age 12, they would judge me</i> <i>If I was diagnosed with a sexually transmitted infection, people would judge me</i> <i>Respondent answering from parent point of view</i> <i>I would be ashamed, angry, or uncomfortable if my child was engaging in sexual activity too early</i> <i>I would be ashamed, angry, or uncomfortable if my child contracted a sexually transmitted infection</i>	
Safety and efficacy of the HPV Vaccine (respondent perspective)	0.936
<i>Getting the HPV vaccine is not a good idea because the HPV vaccine is not effective</i> <i>Getting the HPV vaccine is not a good idea because the HPV vaccine is not safe</i>	

Figure 1: Questionnaire Scales and Internal Consistency.

sistency using Cronbach’s Alpha tests. All were of acceptable internal consistency (>0.60).

The scales were tested for their association with self-reported HPV vaccination. Scales 1, 2, 4, and 7, showed significant differences in scores for vaccinated and unvaccinated groups, indicating that attitudes toward items in these scales differed significantly between vaccinated and unvaccinated individuals (Figure 2).

These scales were then tested for their association with vaccination using regression analysis, in which sex assigned at birth, migration back-

ground, and age were adjusted for as confounders. The regression analysis revealed that agreement with common sex-related reasoning for foregoing HPV vaccination was correlated with a 1.406 times higher chance of foregoing vaccination (P=.001). Parental agreement with the same reasoning (adjusted OR= 1.264, P<.05), agreement with statements relating HPV vaccination to sexual behavior (adjusted OR= 1.256, P<.10), and belief that the vaccine is unsafe and ineffective (adjusted OR= 1.409, P<.001) were also all shown to be linearly associated with foregoing vaccination (as depicted

Factors	Vaccinated		Unvaccinated		Significance
	Mean	SD	Mean	SD	P-value
Scale 1: Sex-related reasons to forego HPV vaccination	0.659	0.587	1.448	0.615	0.000
Scale 2: Parental view of sex-related reasons to forego HPV vaccination	0.647	0.698	1.214	0.846	0.028
Scale 3: Sexist burden of HPV vaccination	0.923	0.868	1.000	0.926	0.797
Scale 4: Sexual stigma associated with the HPV vaccine	0.308	0.541	0.889	0.709	0.006
Scale 5: Conversations about sex between parents and children	2.135	1.013	2.054	0.792	0.782
Scale 6: STI and premature sexual activity stigma from peers	1.914	1.046	2.036	0.746	0.672
Scale 7: Safety and efficacy of the HPV Vaccine	0.750	0.682	1.600	0.930	0.005

Figure 2: Table Comparing Scale Means of Vaccinated and Unvaccinated Respondents.

Variable	R2	Adjusted R2*	OR (95% CI)	Lower Bound	Upper Bound	Adjusted OR (95% CI)*	Lower Bound	Upper Bound	P-value
HPV Vaccination	0.298	0.391							
Scale 1: Sex-related reasons to forego HPV vaccination			1.459	1.209	1.761	1.406	1.166	1.696	0.001
Sex (Control factor)						1.687	1.025	2.779	0.040
Age (Control factor)						1.004	0.943	1.068	0.906
Migration (Control factor)						0.875	0.608	1.257	0.460
HPV Vaccination	0.120	0.294							
Scale 2: Parental view of sex-related reasons to forego HPV vaccination			1.235	1.023	1.490	1.264	1.045	1.530	0.017
Sex (Control factor)						1.733	1.012	2.971	0.045
Age (Control factor)						1.019	0.954	1.090	0.559
Migration (Control factor)						0.715	0.473	1.082	0.110
HPV Vaccination	0.183	0.290							
Scale 4: Sexual stigma associated with the HPV vaccine			1.370	1.104	1.699	1.256	0.975	1.618	0.076
Sex (Control factor)						1.467	0.776	2.773	0.230
Age (Control factor)						1.009	0.941	1.082	0.796
Migration (Control factor)						0.859	0.571	1.293	0.456
HPV Vaccination	0.225	0.485							
Scale 7: Safety and efficacy of the HPV Vaccine			1.302	1.111	1.527	1.409	1.218	1.629	0.060
Sex (Control factor)						2.171	1.377	3.425	0.001
Age (Control factor)						1.070	1.007	1.138	0.030
Migration (Control factor)						0.804	0.576	1.123	0.193

Figure 3: Table Showing an Overview of the Regression Testing.

in Figure 3).

This was in line with previous research that proposed sexual stigma as a vaccine deterrent. Means taken from the items in the significant scales revealed that the highest levels (above a mean score of 1 on the 0-4 point likert scale) of agreement fell with the statements shown in red in Figure 4.

Conceptualizing Sexual Stigma Through the HSDF

Based on the survey data, stigma toward HPV on account of its sexually transmitted nature is best articulated as the belief that 12 years old is too early to administer a vaccine against a sexually transmitted disease and that those who are careful and prudent need not get such a vaccine. This is in line with the assessment of previous research that pinpointed a sentiment that HPV vaccination was only necessary for promiscuous and irresponsible individuals.^{24–26} Literature has documented

beliefs that the vaccine is unnecessary at an early age because of expectations that adolescents will forego sex until marriage,²⁵ but has not explicitly found opposition to the vaccine based on the belief that 12 years old is too early to receive the vaccine, therefore this is a novel finding in the field of research.

While it was previously believed that the combination of past research and the findings of the questionnaire could be applied to a complete conception of the HSDF in the Dutch context, these findings can only offer an accurate idea of the drivers of stigma toward HPV vaccination, not the facilitators, manifestations, and outcomes that are required for a full HSDF analysis. In order to accurately assess the facilitators, manifestations, and outcomes, this study would need to assess qualitative experiences of stigma, as well as outcomes on an institutional or population level, which was unfortunately beyond the scope of the project. The drivers are conceptualized through the Framework as depicted in Figure 5.

Sex-related reasons to forego HPV vaccination (respondent perspective)	Mean agreement
<i>Only people who are already sexually active need to get an HPV vaccine.</i>	1.02
<i>12 years or younger is too early to get a vaccine that protects against sexually transmitted disease.</i>	1.02
<i>It makes more sense for someone to get the HPV vaccine shortly before becoming sexually active than several years beforehand.</i>	1.49
<i>The HPV vaccine is not worth getting because there is a low risk of contracting HPV.</i>	0.77
<i>Someone who intends to always use condoms or other barrier methods to protect themselves during sex does not need to get an HPV vaccine.</i>	0.85
<i>If someone intends to forego sexual activity until marriage, there is no point in them getting an HPV vaccine.</i>	1.15
<i>Only people who have had many sexual partners need to get the HPV vaccine</i>	0.6
Parental view of sex-related reasons to forego HPV vaccination (respondent answering in their parents' perspective)	
<i>If my child were to get the HPV vaccine, others would assume that my child is sexually active</i>	0.84
<i>If my child were to get the HPV vaccine, others will think that my child is promiscuous or engaging in risky sexual behaviors.</i>	0.66
<i>If I let my child get the HPV vaccine, they will be encouraged to engage in sexual activity earlier than they might have otherwise</i>	0.84
<i>My child does not need to get the HPV vaccine because they will never engage in risky sexual behavior</i>	1.11
<i>If my child expresses that they want to get the HPV vaccine, this means they are sexually active</i>	0.81
<i>My child does not need to get the HPV vaccine because they will have one or few sexual partners in their lifetime</i>	0.79
Sexual stigma associated with the HPV vaccine (respondent perspective)	
<i>Getting an HPV vaccine makes others assume that one is sexually active</i>	0.76
<i>Getting an HPV vaccine makes others think that one is promiscuous or engaging in risky sexual behaviors.</i>	0.52
<i>Getting an HPV vaccine encourages someone to engage in sexual activity earlier than they might have otherwise</i>	0.39
Safety and efficacy of the HPV Vaccine (respondent perspective)	
<i>Getting the HPV vaccine is not a good idea because the HPV vaccine is not effective</i>	1.17
<i>Getting the HPV vaccine is not a good idea because the HPV vaccine is not safe</i>	1.11

Figure 4: Table Showing the Mean Agreement per Item per Scale for Significant Scales.

Stigma toward sex and effects on HPV vaccination in the Netherlands: through the Health Stigma and Discrimination Framework

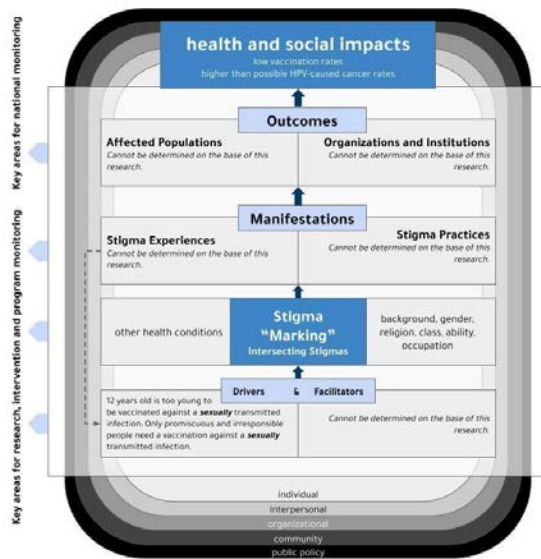


Figure 5: Research of this paper as applied to the HSDf.

Although agreement with these stigma items was generally low in the survey group, agreement with the statements was linearly associated with

non-vaccination. For this reason, I posit that these drivers of stigma actively affect vaccination rates, as stated under “health and social impacts” in the proposed framework (Figure 5). A view that the vaccine is only necessary for those who are promiscuous and irresponsible may elicit a belief that anyone who opts into receiving the vaccine fulfills these traits, and in turn deters people from vaccination. Additionally, a belief that 12 years old is too early to receive a vaccine against a sexually-transmitted infection may delay vaccination, forcing the adolescent to carry the financial burden later, or to opt-out if the National Immunization Program no longer subsidizes the cost. This is the proposed mechanism of stigma uncovered in the Dutch sample by the novel questionnaire, validated by previous research. The overall agreement with stigma statements, at a maximum of 1.49 on a 0 to 4 point scale, however, remains relatively low in the highly educated surveyed population.

Conclusion

This paper has uncovered a presence of sexual stigma in the Dutch student population of Amsterdam University College and has conceptualized the drivers of this stigma as the belief that only

older, promiscuous individuals should receive the vaccine. This is a novel finding, and the first research to examine this issue in the Netherlands.

Despite the important findings of this research, the methods employed have left the study with multiple limitations. Firstly, previous literature on sexual stigma toward HPV is not extensive and has not been studied within the Dutch context. Secondly, a small sample size ($n=49$) of the survey reduces the reliability of the results, and the sample is of a biased population. Indeed, the sample population is heavily female, majority western, educated, industrialized, rich and democratic (WEIRD), and therefore may not reflect the reality of the situation of the diverse Dutch national population. Nonetheless, presence of stigma in a highly educated population indicates the importance of researching the presence of stigma in a more diverse sample representative of the Dutch population, as highly educated individuals are more already more likely to initiate vaccination than their lower educated counterparts.³² Lastly, this research only covers the drivers of stigma in the HSDF, not the facilitators, manifestations, and outcomes, as they were beyond the scope of the questionnaire, implying that more insight could be gained if future research were to collect data to which the entire framework could apply.

Given the limitations of this preliminary research and the stigma's resulting heavy burden of reduced HPV vaccination, further research must be conducted to inform future interventions. A survey with a large sample size, collected from Dutch individuals of all ages, genders, political orientations, provinces, levels of education and/or income, and backgrounds is essential to further explore the drivers of stigma. This future survey should include an assessment of facilitators, manifestations, and outcomes of the stigma, as conceptualized in the HSDF. The results of the survey could then be used to target stigma toward sex in an effort to promote HPV vaccine uptake.

With more research into sexual stigma as a deterrent of HPV vaccination, for which there are immense consequences, epidemiologists in the Netherlands can uncover an effective way to combat sexual stigma toward HPV vaccination, expand coverage of the vaccine, and greatly reduce the prevalence of HPV-caused cancers.

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Humanities

Connecting universal and local feminism through the haptic gaze in Deniz Gamze Ergüven's *Mustang*

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France's announcement that *Mustang* (Gamze Ergüven, 2015) would be its candidate for the Best Foreign Film Oscar in 2016 has attracted both the curiosity and the defiance of the Turkish audience. The film, a Franco-Turkish production in the Turkish language, follows the lives of five young, orphaned sisters — Sonay (Ilayda Akdogan), Selma (Tugba Sunguroglu), Ece (Elit Iscan), Nur (Doga Zeynep Doguslu), and Lale (Gunes Sensoy). When the girls come home from playing with their classmates on the beach after school, they are accused by their grandmother of having scandalously “rubbed themselves against the boys’ necks”. In response, the family home is progressively transformed into a restrictive ‘prison’ and, one after the other, arranged marriages are set up for the sisters. The sisters are forced to use their courage and imagination to avoid the constraints imposed on them until the escalation of violence they face eventually forces them to flee to the capital. Upon its release, *Mustang* generated mixed reactions in Turkish media; commentators hesitating between a wish to endorse and claim the film as part of the national cinema, and a suspicion of orientalism triggered by its sharp critique of Turkish culture (Strauss, 2015).

Concerns about imperialist thinking in western films about sexist oppression in the Middle East are not unwarranted: indeed, as Serene Khader (2019) points out, universalist feminist arguments in the West have historically been co-opted to promote imperialist projects. In the 19th century, for example, the poor treatment of women in the Middle East was held by suffragists as proof that members of these cultures were ‘barbaric’ and ‘unfit to rule themselves’; moreover, in the 2000s, the Bush administration referred to concerns about the allegedly forced veiling of Muslim women to justify waging war in the Middle East (Khader, 2019, p.1). Similarly, in cultural representations, the sexism experienced by Muslim women is often framed as proof of the ‘backwardness’ of Muslim cultures. This framing serves to paint a glorified picture of the West, which, by contrast with this perceived ‘backwardness’, can position itself as a progressive and morally superior patron – despite the existence of sexist oppression in the West as well. These representations, which can seem progressive on a superficial level because they denunciate sexism, reinforce the idea (voluntarily or not)

that Muslim cultures are backward, dangerous, and in need of paternalist intervention from the West. Khader labels this brand of western feminism that perpetuates imperialist assumptions “missionary feminism” (Khader, 2019, p.3). It seems clear that intersectional feminists, who are equally committed to antiracism as to antisexism, should stir away from missionary feminism. Yet, it is a difficult conclusion to accept for global feminists that they should embrace a relativistic posture and entirely avoid criticizing sexist oppression in non-western countries, or that non-western feminist filmmakers should privilege presenting a favorable national image over denouncing sexist injustices in their country. In *Mustang*, Ergüven takes on the difficult challenge of making a film about sexist oppression in Turkish society without exercising an ‘othering’ gaze in an attempt to critique from within rather than from without and to reclaim the possibility of a universalist feminism distinct from missionary feminism. In this essay, I will argue that although the narrative structure of *Mustang* is typical of western narratives about the Orient, Ergüven’s use of haptic elements, which appeal to the eyes as organs of touch rather than subjects of gaze, brings nuance to her portrayal of Turkish culture. It offers a singular feminist vision that is critical of conservatism while being respectful of traditions, refuses to embrace the western value of individualism as a goal of feminist liberation, and subverts the stereotypical representation of Muslim women as either hypersexualized or de-sexualized beings.

Upon first impression, *Mustang* can easily be accused of reproducing the codes of the imperialist gaze. The overarching narrative of the film is indeed driven by the sisters’ desire to liberate themselves from a ‘backward’ culture whose conservative values oppress them, which is a narrative structure that draws upon a hierarchical opposition between Turkish traditionalism and Western modernity. This opposition is embodied in the “perverting”¹ objects that are taken away from the girls after the incident: chewing-gum, make-up, a computer, a phone, and a postcard of Delacroix’s famous painting *Liberty leading the people* (1830) – a symbol of the Enlightenment and of democratic values (Figure 1). Symbolically, the rejection of these artefacts can be interpreted as representing the rejection of American influence (chewing-

¹As Lale calls them.

gum), seductiveness in women (make-up), technology (computer and phone), and democratic values (the postcard). The family's values, in mirror, are thus Turkish nationalism, modesty for women, the opposition to modern technology, and the rejection of democratic values. Although some characters, such as Yasin (Burak Yigit) and Lale's teacher (Bahar Kerimoglu), seem to adhere to modern values, preventing an overly strict opposition between Turkey and the West in the film, the confinement of these modern values to young and urban characters keeps the tradition/modernity binary opposition from being truly undermined in the film.



Figure 1: *The girls' grandmother confiscates certain items deemed likely to pervert them after they are caught playing with the boys and assigned to stay at home Among these confiscated artefacts is a postcard of Eugène Delacroix's Liberty leading the people.*

Yet, despite the narrative structure's alignment with teleological narratives typical of western values, the visual details of the film propose a singular framing of 'tradition' and 'progress' that departs from stereotypical representations. In binary opposition with western modernity, tradition and conservatism are typically equated; however, *Mustang's* framing of tradition distinguishes the two. The film holds that while *conservative* ideas about women's place in society are oppressive, *traditions* have positive aspects. This is illustrated in the scene where, after the incident, the sisters learn to cook with their aunt. "The house became a wife factory, of which we never came out," comments Lale through voiceover at the beginning of the scene. The critical comment combined with close-ups of the girls' bored faces narratively frames the scene as a denunciation of the sexist education imposed on the sisters.

However, as the scene progresses, it is not the girls' faces that are given most of the attention, but the preparation of the food itself. A multiplicity

of hands knead dough, spread it, cut it, their gestures mirroring each other or coming together. One cannot help but notice the haptic quality of this sequence. Haptic visuality is defined by Laura Marks (2000) as a form of visuality in which the eyes function as organs of touch (p.162), profoundly transforming the relationship between the audience and the image by inviting them to engage with the film with their whole bodies. In this scene, *Mustang* encourages the viewer to think with their hands by lingering on close-ups of cooking gestures performed through direct skin contact and by emphasizing the texture of the food, particularly in the mashing of the grainy, wet pink stuffing (Figure 2). This particular attention adds three layers of mean-



Figure 2: *The sisters' aunt teaches them how to cook dolmas.*

ing to the scene for which the narrative on its own does not account. First, it conveys recognition and respect for the technique that traditional cooking requires. This recognition is meaningful because the domestic crafts associated with femininity and non-western cultures are devalued in patriarchal western culture. In this scene, the subtle technical knowledge of the aunt is recognized, and her

mere attempt to teach it to the reluctant sisters reveals the essence of homemaking as a complex learnt skill rather than a natural feminine instinct.

The second characteristic of these images is their evocation of conviviality. In each shot, an extra pair of hands is present to demonstrate or help with the task. Skilled and clumsy hands work together towards a collective purpose under the encouragement of the aunt. Despite the context, there is a certain joy of 'being and doing together' shared by the family in these images. It seems that as long as the sisters are together, they are able to cope with the constraints that are imposed on them. In this scene, the value of community and togetherness seems to be just as important as the value of freedom and choice. The rejection of forced femininity is accompanied by the enjoyment of belonging with other women and the togetherness associated with traditional femininity.

Lastly, the haptic imagery conveys recognition for the sheer beauty of the traditional food itself. The viewer rejoices in the diversity of colors, textures, tastes, and smells that the Turkish dishes evoke. Their beauty is colored by nostalgia – which can be understood better in light of Marks' claim that our perception of sensory experiences is associated with cultural knowledge (p. 144). The enjoyment of food is not limited to its gustative qualities but is also informed by how and if we have interacted with it in the past. Each dish is rich in memories: of our childhoods, of the moments during which we enjoyed the food, of the people with whom we have shared these moments. Most of us recognize the feeling of nostalgia we experience when we recall our favorite dishes from childhood, especially if we have since been separated from parts of our culture by migration. Although the nostalgic beauty of the food in *Mustang* is perceptible by all viewers, the display takes on a special color for those who are familiar with the dishes, having either consumed or prepared them, and taps into their simultaneously cultural and personal reservoir of experiences. This enables them to connect with the film in a way that an uninitiated viewer cannot by inviting them to complete the scene with their own memories and experiences.

These three elements—the appreciation of the elder woman's cooking skills, the joy of being and doing together, and the appreciation of the beauty of traditional food—exhibit the historically overlooked and depreciated value of traditional feminin-

ity. The combination of this transvaluation with its place in the narrative as a forced teaching reveals the subtlety of *Mustang*: the film provides a critique of the violence of patriarchal institutions that force women into adhering to femininity, but also ascribes value to the admirable and joyous aspects of activities coded as traditionally feminine. *Mustang's* commitment to feminism does not necessitate the rejection of the notion of tradition—the act of living according to inherited external dictates—in *itself*, but, as argued by Khader, a rethinking of traditions that addresses their sexist *content* and *effects* (Khader, 2019, p. 9). For Khader, the view of traditionalism and feminism as perfectly incompatible is part of the heritage of the Enlightenment that characterizes missionary feminism and should be rejected by a transnational feminist ethic. *Mustang*, illustrating Khader's argument, criticizes the sexist way in which women are forced into traditional femininity, without denigrating its content and the women who embody it.

Moreover, *Mustang*, through its use of haptic elements, manages to challenge the framing of what constitutes progress prescribed by western ideologies: it rejects individualism as the end goal of feminist liberation, as missionary feminism posits, and avoids the pitfall of entrapping middle eastern women within a hypersexualized/de-sexualized binary. The rejection of individualism is visible in the scene where the sisters joyfully play and cuddle together, their bodies interlaced so closely that it is hard to distinguish where one ends and the next begins (Figure 3). The boundaries between their dif-



Figure 3: *The sisters play and cuddle together.*

ferent bodies are lost, expressing the highest level of belonging through a capacity to merge in connection. The affectionate togetherness of the sisters is the greatest attributed value and driver of the film: it is indeed the progressive separation of the sisters through marriage that triggers their ultimate rebellion. Marriage individualizes the sis-

ters, but this individualization is synonymous with replaceability. This is made obvious by the way Selma replaces Sonay in the marriage negotiations after the former declines to marry Osman (Erol Af-sin), as if they were interchangeable. It is also synonymous with feelings of isolation, as experienced by Selma after her wedding. The cold light on her during the virginity test she is subjected to makes her look corpse-like (Figure 4) and represents her isolation, which contrasts with the warm and lively union she had experienced with her sisters (Figure 3). *Mustang* thus represents collective belonging



Figure 4: *Selma gets a virginity test at the hospital because she has not bled during her first sexual experience with her husband.*

not just as a means, but as a goal of feminist liberation, refusing the individualism associated with western modernity.

Moreover, *Mustang* claims the right to exist outside of the hypersexualization/de-sexualization binary often imposed on middle eastern women. According to Stuart Hall (1997), people who are considered different from the majority, including women and people of color, are frequently exposed to a binary of representation such as good/bad, civilized/primitive, ugly/excessively attractive (p. 229). The hypersexualization/de-sexualization binary can be observed widely in representations of middle eastern women in the West, ranging from the belly dancing exotic prostitute to the 'sexually repressed' burqa-wearing Muslim woman. These two archetypes are in direct contrast with the West's self-affirmed sexual modesty (equated with virtue and civilization), and with the sexual liberation of women of the West (equated with progressiveness) respectively. The critique of this binary representation, which expresses itself both in orientalist stereotypes about middle eastern women and in local modesty culture, is at the core of *Mustang*. The achievement of the film is its capacity to exceed both sides of this dichotomous representa-

tion: the sisters are both less and more sexual than is expected by the adults in the film and, presumably, by the audience.

On the one hand, *Mustang* criticizes the hypersexualization of young girls by exposing the way in which the non-sexual behavior of the sisters is unfairly interpreted as sexual by adults: in the opening scene of the film, the girls' innocent play with their male classmates is seen as sexual and is harshly punished (Figure 5). Paradoxically, this harsh repression lacks internal consistency and is accompanied by an expectation that the sisters be sufficiently sexually mature for marriage, when their childish ways of playing clearly shows the audience that they are not (Figure 6).



Figure 5: *In the opening scene of the film, the sisters play with their classmates. They are later accused by adults of having sexually rubbed themselves against the boys' shoulders.*



Figure 6: *Lale engages in childish play with her sister Nur.*

On the other hand, *Mustang* also shows the ways in which the girls engage in sexual exploration, rejecting the idea that they are completely de-sexualized beings. This exploration is represented as experimental and spontaneous for Lale, who playfully walks around the house in her sister's bra (Figure 7); loving for Sonay, who is madly in love with her boyfriend (Figure 9a); and, in a darker way, compulsive and dangerous for Ece (Figure 8), who suffered sexual abuse from her un-

cle. Visually, healthy versus imposed expressions of sexuality are differentiated by the presence of haptic visuality versus optic visuality. Sonay and Selma's double wedding offers a visual comparison between a voluntary marriage and a forced marriage. The way Sonay kisses her boyfriend's face in an extreme close-up shot (Figure 9a) conveys the intensity of their intimacy, their skin-to-skin connection reminiscent of that of the sisters among themselves. Selma, on the contrary, finishes the drinks on the table alone in a medium long shot. After her first sexual experience with her husband, she is again shown from a distance (Figure 9b), suggesting the lack of intimacy and the alienating nature of her experience. The multiplicity of sisters allows for the representation of a diversity of experiences with sexuality. *Mustang* is thus also remarkable for proposing a complex vision of the teenage girls' sexuality, which avoids the pitfalls of the hypersexualization/de-sexualization binary.



Figure 7: Lale plays by putting on her sister's bra and proudly parading around in it.



Figure 8: Ece has sex with an unknown man in the car while her uncle is running errands.

Deniz Gamze Ergüven's *Mustang* offers a singular vision of sexist oppression in Turkey, which can be taken as an example of a universalist critique that avoids the trappings of what Serene Khader calls "missionary feminism" (2019). Although the narrative of the film reproduces certain typically western structural narratives that en-



a. Sonay kisses her boyfriend's face.



b. Selma alienated from her unwanted husband.

Figure 9: Sonay and her boyfriend at their wedding (a), versus Selma and her husband after their first sexual experience together (b).

vision feminist liberation as progress from tradition to modernity, the visual aspects of the film, notably its usage of haptic elements, propose a framing of tradition and of progress that departs from stereotypical representations. While the film criticizes the sexist effects of conservatism, it simultaneously highlights the skills, the beauty, and the joy of togetherness that can be associated with traditions. Furthermore, *Mustang's* vision of progress departs from that of western modernity in its rejection of individualism and its overcoming of the hypersexualization/de-sexualization binary which drives both Western and Turkish discourses about Turkish women's sexuality. *Mustang*, thus, highlights the ways in which feminist cinema can make use of haptic elements to nuance its representations of othered cultures and contribute towards a universal feminist ethic that is also committed to fighting colonial injustices.

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Humanities

An Edifice of Unavenged Tears:

Nietzsche in Conversation with Ivan Karamazov

Bluma Brecher



Photographer: Sanch Kuber

Abstract

Many scholars have identified suffering as a central theme in Nietzsche's philosophical genre, particularly in relation to his 'Affirmation of Life'. Moreover, in recent scholarship, Nietzsche's encounter with the problem of *theodicy* has been of particular interest. However, the exact role of suffering in Nietzsche's work remains subject to considerable controversy, not least due to Nietzsche's own theoretical non-consistency on the topic. In the following, I suggest understanding Nietzsche's 'perspectivism' as methodological, thereby resisting a singular interpretation of Nietzschean suffering. Rather, I propose reading suffering in *Beyond Good and Evil* alongside Fyodor Dostoevsky's *The Brothers Karamazov*, using Dostoevsky's characters as a prism for Nietzsche's writing. In this, I make use of Dostoevsky's polyphonic style, setting the different voices against Nietzsche's non-consistency and actively reading for *theoretical plurality*. By approaching Nietzschean suffering through the characters of Ivan, the Inquisitor, Alyosha, and Christ, I outline various aspects of Nietzsche's writing, establishing an understanding of suffering which is neither normatively essential nor negative, but rather occasions the affirmation of life regardless of suffering. This affirmative approach can be aligned with Dostoevsky's notion of 'Active Love', which advocates loving all Creation in an embrace, rather than a justification of suffering.

Keywords and phrases: *Frederic Nietzsche, Suffering, Theodicy, Fyodor Dostoevsky, Polyphony*

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Introduction

“Imagine that you are creating a fabric of human destiny with the object of making men happy in the end, giving them peace and rest at last, but that it was essential and inevitable to torture to death only one tiny creature—that baby beating its breast with its fist, for instance—and to found that edifice on its unavenged tears, would you consent to be the architect on those conditions?” (Dostoevsky 1880).

In commenting on the role of suffering in Friedrich Nietzsche’s oeuvre, Maudemarie Clark aptly remarked that Nietzsche surely “*suffered a lot more than most of us*” (Clark 2012). Personal experience notwithstanding, Nietzsche certainly wrote a great deal about suffering. In fact, many scholars have identified suffering as a central theme in Nietzsche’s genre, particularly in relation to his ‘Affirmation of Life’ (see for example Brock 2015; Reginster 2006; May 2011). Nietzsche’s encounter with the problem of *theodicy*, the justification of arbitrary suffering in a Divinely created world, has been of noteworthy interest in recent scholarship (see Came 2005; Guess 1999; Janaway 2017). Despite his vehement anti-Christianity, and his mentioning of the term ‘theodicy’ a mere three times in his writing (Janaway 2017), some mode of justifying or rectifying the experience of human suffering seems to underscore much of Nietzsche’s work. However, what exactly his understanding of suffering is and whether it has an essential or merely an instrumental role in his writing remains subject to controversy in contemporary scholarship. As is so often the case when reading Nietzsche, theoretical non-consistency dominates (see Clark and Dudrick 2012; Lampert 2005; Magnus 1986; Nehamas 1985; Schlacht 1986). Only a few years before Nietzsche, Fyodor Dostoevsky addressed a similar problem – the justification of arbitrary suffering – in *The Brothers Karamazov* (TBK), offering a fictional account of theodicy so convincing that it features in many contemporary discussions of the issue (see for example Adams 1999; Hick 1966; Sutherland 1978). Speaking through Ivan, the most skeptical of the novels’ protagonists, Dostoevsky hurls a shattering lamentation of cruel and arbitrary suffering at his readership, its polemical accumulation in

the quote above. Cardinal to Dostoevsky’s account is his ability to present multiple viewpoints on equal footing through the use of *polyphony* (see Bortnes 2015; Siddiqi 2019; Silistino 2015), a decentering of the main voice of a story in favor of narrative plurality (Bakhtin 1984). While comparative analyses of Nietzsche and Dostoevsky, particularly in reference to their shared proto-existentialist roots, are by no means uncommon, and despite elaborate work on the problem of theodicy in both TBK and in Nietzsche’s writing, comparative readings of Dostoevsky’s and Nietzsche’s understanding of theodicy and suffering remain few and far between. I suggest we turn to such a reading, making use of Dostoevsky’s polyphonic style, to understand the complex role of suffering in Nietzsche’s genre. In particular, I aim to work through the varying perspectives offered in *Beyond Good and Evil* (BGE, Nietzsche 1886) through a prism of Dostoevsky’s characters. To achieve this, I will make use of Dostoevsky’s polyphonic writing to present a number of differing accounts of suffering in BGE, setting Nietzsche’s rhetorical and terminological non-consistency against Dostoevsky’s multivocal style. That is to say, I aim to read for *theoretical plurality*, actively resisting a single interpretation of suffering in Nietzsche’s genre. First, I briefly elaborate on my methodological approach, outlining the significance of using Dostoevsky’s writing as a sounding board for a theoretically plural account of suffering in Nietzsche, and offer a few remarks on suffering and theodicy in Nietzsche’s work in general. I then turn to TBK to explore the nature of Ivan’s theodical claim, and to unpacking the varying perspectives on suffering Dostoevsky offers. This leads into a reading of BGE alongside Dostoevsky’s narrative and characters, allowing me to highlight and weigh various approaches to Nietzschean suffering. Finally, I consider suffering as it relates to Nietzsche’s notion of the ‘Affirmation of Life’.

Wanting to Have it “Both Ways”: Reading Theodicy for Theoretical Plurality

It should be remarked preliminarily that Nietzsche was never engaged in what we might consider a ‘literal’ *theodicy*: he was never concerned with the justification of suffering on the premise of an omnipotent and benevolent God (for an elabo-

rate discussion, see Hick 1966). Rather, Nietzsche was concerned with the justification of suffering in relation to some other element of life which would render it explicable, a kind of ‘cosmodicy’ (McPherson 2016). The term ‘justifying’ might already be fraught in this context, however, as Janaway points out in *On the Very Idea of ‘Justifying Suffering’* (Janaway 2017), since justification implies not only *acceptance* of a certain fact, but also *vindication* in sight of some other value which either renders it worthwhile or blameless, it implies a fixed normative value. While some believe Nietzsche attributes an essential value to suffering in the ‘Affirmation of Life’ (Reginster 2016, for example) or renders suffering instrumentally worthwhile in relation to some primary value (Clark 2012; Janaway 2017), whether this actually amounts to the vindication of suffering itself is questionable. That being said, in seeking a place for suffering which allows us to have an at least neutral, and at best a positive, attitude toward it, Nietzsche can be said to remain in the tradition of ‘theodicy’. While this theme underscores much of Nietzsche’s writing, for the sake of this exposition I have chosen to limit myself to BGE, arguably his most self-contained and developed work.

As addressed above, there remains considerable controversy with regards to Nietzsche’s ‘place’ for suffering. While this is partially due to differing conceptualizations of, for example, his ‘Will to Power’ and ‘Revaluation of Values’ (Clark 2012; Reginster 2006), much of the scholarly contention can be attributed to Nietzsche’s own theoretical non-consistency on the topic of suffering (see May 2011). As is so often the case in his writing, Nietzsche “*wanted to have it both ways*” (Magnus 1986). This theoretical non-consistency, however, may be part and parcel of his philosophical enterprise. Taking Nietzsche’s ‘perspectivism’ as a point of departure, some authors have suggested that his writing is in active resistance to singular interpretation (Clark and Dudrick 2012; Magnus 1986; Nehamas 1985; Nehamas 1986; Schlacht 1986); that is to say, Nietzsche’s non-consistency, and his aphoristic, occasionally poetic writing style should be understood as a methodological appropriation of his perspectivist claim (Nehamas 1985). Rather than presenting a systematic or dogmatic exposition of ideas like the ‘Will to Power’, Nietzsche offers a tapestry of perspectives on a certain problem, merely an interpretation (Schlacht 1986), in ac-

tive awareness of the impossibility of representing a non-situated ‘truth’ (Nehamas 1986). Alexander Nehamas aptly compares this strategy to a painting, which does not claim to represent reality ‘accurately’, but also cannot be understood as ‘false’; rather, different painting styles offer different perspectives (Nehamas 1986). We might note how Nietzsche starts his final aphorism in BGE: “*Alas, what are you after all, my written and painted thoughts!*” (221).

Following these methodological implications of Nietzsche’s perspectivism, I suggest a reading of Nietzschean suffering which actively resists singular interpretation. Making use of his “*artistic model[s] for understanding the world*” (Nehamas 1985), I propose reading Nietzschean suffering through a *literary* text. In particular, I suggest reading Nietzsche alongside TBK: not only because of this novel’s treatment of theodicy, but also to gain a view of Dostoevsky’s *polyphonic* style. In making use of ‘polyphony’, a narrative style typified by the simultaneous use of diverse authoritative views and voices within one narrative, exemplified in Dostoevsky’s work but first conceptualised by Mikhail Bakhtin (Bakhtin 1984), Dostoevsky decenters the main voice of his narratives, giving all, often opposing, voices equal weight (see Bakhtin 1984; Bortnes 2015; Siddiqi 2019; Silistino 2015). The methodological slant of my reading then lies in pivoting Nietzsche’s non-consistency and Dostoevsky’s polyphony against one another, using Dostoevsky’s characters as a prism for Nietzsche’s writing in theodicy and suffering. I therefore explicitly aim to read for *theoretical plurality* in Nietzsche’s work – “*What really is it in us that wants ‘the truth?’*” (BGE 33).

“Returning the ticket”: Reading Theodicy Through The Brothers Karamazov

A brief consideration of theodicy and suffering in TBK is necessary before embarking on this comparison. Our opening quote is part of a longer dialogue between Ivan and his younger brother, Alyosha, who is a novice monk in a local monastery (Dostoevsky 1880). This conversation is chronicled in the sections ‘Rebellion’ and ‘The Grand Inquisitor’ of Book 5, which form the center of the novel’s theodical exposition. In ‘Rebellion’, Ivan laments

the existence of arbitrary suffering, in particular, the suffering of children, which he feels can never be justified and which he wishes to reduce (276 onward). Drawing on the Fall from Eden, he posits that children cannot be at fault, because they *"haven't eaten anything"* (278). For Ivan, there can be no justification for arbitrary suffering in moral agency, and no general 'compensation' through Divine punishment, since the only one who can truly forgive is the one who has suffered. It is noteworthy, however, that Ivan does not challenge the existence of God (as a classical theodicy might), but merely refuses to accept His world: *"it is not God that I do not accept [...] I merely most respectfully return him the ticket"* (287). Ivan ends this monologue by asking his brother if he would consider such horrible suffering justified, supposing it would be necessary in building an ultimately good world.

In 'The Grand Inquisitor', Ivan continues by reciting a 'poem' he wrote (288), set during the Spanish Inquisition, in which Christ has briefly returned to Earth. In the story, Christ is promptly arrested by 'The Grand Inquisitor', a cardinal of the church who feels Christ made a mistake in giving man the gift of freedom, because very few people are strong enough to use this freedom wisely, and most end up suffering. The Inquisitor's church has removed this burden of freedom from the people, leaving them with *"miracle, mystery, and authority"* (299), and passed it on to the church leaders, who even bear punishment for the people's sins. The Inquisitor here offers an indirect challenge to 'free-will theodicy', that which is justified through human agency (see Hick 1996). However, rather than challenge the necessity of suffering for human agency, the Inquisitor counters our very benefit from free will (see Rosenshield 2016). Moreover, he differentiates between those who can and cannot bear suffering and freedom; for him, suffering should be reserved for the exceptional few for the benefit of the masses. Christ's response to The Inquisitor in the poem offers a curious final perspective: Christ stays silent while the Inquisitor speaks, but finally gets up and kisses the old man on the lips, a gesture Alyosha mimics when his brother leaves the restaurant. Neither Christ, nor Alyosha in imitating him, actually offer a counter argument, or any justification of suffering. Rather, they offer a kiss (see Lamore 2016; Poznar 1992; Rosenshield 2016; Trepanier 2009).

"Creature and Creator": Nietzsche in Conversation with Ivan Karamazov

With a newfound understanding of these attitudes, we can consider Nietzsche's writing on suffering in BGE in light of the perspectives Dostoevsky offers. Ivan voices a very strong rejection of arbitrary suffering, displaying a great deal of pity for the sufferers. We can place this attitude in fairly stark opposition to much of Nietzsche's writing on the topic of pity. For Nietzsche, pity is an essential element of a Christian morality, as are the so-called *"modern ideas"* of liberal utilitarianism and socialist redistribution (BGE 72). Pity for the sufferer results in a desire to reduce all suffering, or even to *"abolish suffering"* (BGE 155). This inability to *"let suffer"* (BGE 126) is predicated on the blind, utilitarian favoring, pleasure over pain (BGE 154), and of a Judeo-Christian *"slave morality"* (BGE 197) which prefers the weak over the strong. Moreover, instead of rejecting God in light of unjust suffering, Ivan *"return[s] him the ticket"*, rejecting the world itself. Ivan even expresses a desire to *"dash the cup to the floor"* when he is thirty (308). This essentially amounts to what Nietzsche would consider *"the will to the denial of life"* (BGE 194), a world-forsaking on the premise of some unfavorable condition, like the existence of suffering. This attitude is entirely opposite to what Nietzsche might consider the *"world-affirming man"*, who actively says yes to all of the world (BGE 82). This man might reject God and His moral order in lieu of moral revaluation (BGE 127), but will by no means reject His world. Ivan's Inquisitor voices a similar attitude of pity for the vulnerable, the great masses of the *"weak, rebellious race of men"* whom he wishes to free from the burden of choice (299). He mirrors more than Ivan's desire to abolish suffering: in Ivan's poem, the Inquisitor actively puts in place a governmental order based on the faithful submission of the weak, but happy, masses. In this, The Inquisitor approximates Nietzsche's critique of 'modern ideas' which seek only that which is *"useful to the herd"* (BGE 122). In his attempt to reduce all suffering to create *"thousands of millions of happy infants"* (304), the Inquisitor reflects both what Nietzsche refers to as the *"democratic movement"*, and the Christian Church, who desire to create masses of hardworking, happy but sub-

missive “*herd animals*” (BGE 125). This inability to ‘let suffer’ will, in Nietzsche’s polemical account, turn man into “*a sublime abortion*” (BGE 89). The Inquisitor does seem to share a sensibility to “*order of rank*” (BGE 151) that Nietzsche may find agreeable, and recognizes that not all can equally endure suffering. For Nietzsche, as for the Inquisitor, “*how deeply a human being can suffer almost determines their order of rank*” (BGE 209). Turning briefly to Ivan’s ultimate question for Alyosha, some additional observations can be made. Nietzsche might ostensibly agree that for such an ‘edifice’, or for any advancement of mankind, some suffering is necessary. For Nietzsche, the “*struggle against essentially constant unfavorable conditions*” (BGE 199) is indispensable to the process of strengthening our will (BGE 71). In such, Nietzsche lauds the “*discipline of suffering*” for furnishing depth, strength and greatness in man (BGE 155). This suffering, however, is certainly not for the knowledge of “*good and evil*” per Ivan’s attack (278). Rather, it is for the strengthening of the Will to Power, which does not allow for the knowledge of good and evil, but for the creative moral agency of “*the free spirits*” (BGE 71) that is necessary for the ‘Revaluation of Values’ (BGE 127). Here, Nietzsche asks us to reconsider the separation of the suffering of the ‘tiny creature’ from the architect of the edifice: in man, “*creature and creator are united*” (BGE 155), man must be the sufferer to be the creator.

For Consideration: Christ’s Kiss and the Affirmation of Life

As the above section once more highlights, offering a singular interpretation of suffering in BGE might not only be difficult, but also unproductive. Much of the theoretical richness of Nietzsche’s writing can be drawn out only by allowing the texts to be inconsistent, varying and multiple. That being said, reading BGE alongside TBK goes some way to clarify the (multiple) places suffering holds in Nietzsche writing. In asking us to be both ‘creature and creator’, we must have some affirmative attitude towards our own suffering to facilitate creative invention; without the overcoming of resistance – “*the discipline of suffering*” (BGE 155) – we cannot enter into a process of ‘Revaluation’. Regardless, suffering itself is not what *makes* us creators, as

it is not purely instrumental: it is merely a condition of the life we must affirm. This does not indicate that Nietzsche attributed to suffering some *essential*, fixed, normative value: in his view, those who value suffering for the sake of suffering approximate the Christian “*religion of pity*” (BGE 125). In order to be ‘world affirming’, we must neither wish suffering away, whether our own or others, nor praise it; rather, we must find a place of *affirmation*, regardless of suffering. This attitude seems to be reflected in Christ’s and Alyosha’s response to their counterparts: neither wish to render horrific suffering blameless, nor ultimately to reduce it, instead they offer a kiss, a concrete demonstration of love. As Alyosha’s mentor, Father Zosima, tells us later in the novel, we must “*love all of God’s creation, the whole and every grain of sand in it*” (375) in an active *embrace* – rather than a ‘justification’ – of suffering.

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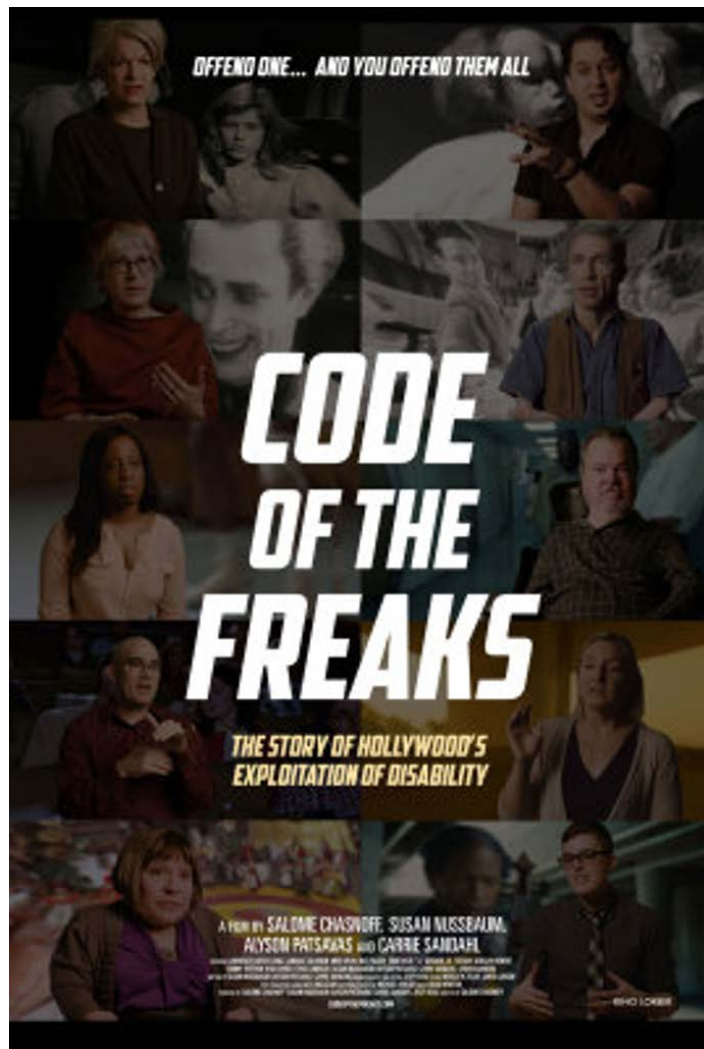
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Humanities

Norms on the Abnormal

Problematics of the traditional cinematic representation of disability

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In book VII of Plato's *Republic*, Socrates explores a philosopher's ability to see the world beyond what is shown. In this exploration, he pictures prisoners chained within a cave, who, unable to move, have no other link to the outside world than shadows on the wall. Socrates compares this structure to a puppet show: the audience can only see what the puppet master is willing to show them to suit the story's purpose. This dynamic between a media object and its audience is the essence of frame theory: not only is the subject of a discussion set, but the way it is presented is carefully thought out to influence the audience's cognition and reaction. This way of defining the audience's focus has proven to be problematic in cases where patterns are found in a subject's representation. Among these instances is the representation of disability in cinematic work (Longmore, 1985; Markotic, 2008; McRuer, 2019; Safran, 1998; Sandhal, 2019). Through the recurring representation of disability as something associated with evil, to be ended, or to be cured, disability-related movies have extensively shaped their audience's perception of the matter, as well as their attitude towards the disability community (Hall, 1997; Longmore, 1985; Safran, 1998; Loiperdinger, 2014; Sandhal, 2019). This issue is the core subject of Salome Chasnoff's documentary, *Code of the Freaks* (2020), and its trailer. The trailer displays disability-related scenes from various genres and times, in addition to interviews with writers and performance artists related to the disability community. Through these means, Chasnoff contrasts different perspectives on disability: the filmmakers', which considers disability as a feature expressive of a character's role and position, and the disability community's actual members', which corrects the aforementioned. In this paper, I explore the extent to which the trailer of *Code of the Freaks* defines and emphasizes the importance of a narrative that contrasts with the traditional model of disability representation in cinematic works.

With no information given to the audience other than the documentary's main focus – the stereotypical representation of disability in films – the trailer of *Code of the Freaks* displays brief scenes from different disability-related movies, played one after another. The clips show intense feelings of sadness, joy, and anger. Each of these movies has a unique *mise-en-scène*: black and white scenes contrast with high definition and special effects and

each character has very specific features. Nevertheless, as the short videos succeed one another, the first frame¹ traditionally used in disability representation reveals itself: all characters are represented either as mystical or dysfunctional and ultimately as unfit to the world surrounding them (Longmore, 1985; Safran, 1998; Sandhal, 2019). According to most analyses of the cinematographic representation of disability, this frame sets a distance between the abled and disabled communities (Longmore, 1985; Markotic, 2008; McRuer, 2019; Safran, 1998; Sandhal, 2019). Indeed, by staging disabled characters as being too different to flourish alongside abled ones, movies direct their audiences' focus towards the differences that come with a disability, encouraging the notion that it is beyond the reach of most to accept, understand and accommodate these differences (Markotic, 2008).

The distance set between the disability community and the rest of the population is reinforced by the use of physical features to reveal a character's personality. (Longmore, 1985; Sandhal, 2019; McRuer, 2019). Ever since disability has been integrated into the cinematic landscape, one of its most prevalent associations has been with evil: either as a punishment for it, its cause, or both, defining the second frame typically used in disability representation (Longmore, 1985). This perspective is mentioned in the documentary's trailer; all the selected scenes related to malevolence display an evildoer approaching a young woman who, terrified, starts screaming as soon as she sees his deformities. This is also encouraged by the fact that 'good' characters necessarily fit into the norms of their society (Markotic, 2008; Sandhal, 2019).

The last traditional frame, equally as pervasive as the aforementioned, identifies disability as having to be cured or escaped, even though it is *not* a disease or an illness. (Longmore, 1985; Markotic, 2008; Sandhal, 2019). In the trailer, an interviewee discusses the link between *normal* abilities and 'happily-ever-afters': in most movies, detaching a character from their disability is portrayed as a happy ending, regardless of the means used to

¹In this essay, the term 'frame' refers to the emphasis of certain ideas, regardless of their accuracy, chosen to be applied in disability representation. Not only does a frame direct and retain the audience's intention on those ideas, it also keeps them from considering alternatives to what is presented.

do so (Longmore, 1985; Markotic, 2008; Sandhal, 2019). In *Forrest Gump's* iconic scene (1994) for instance, what triggers the main character – until then unable to walk without braces – to run is that running is his only option to escape from bullies throwing stones at him. Not only does this scene, through the brace's rupture, portray Forrest's new ability as a step towards freedom, it attenuates the gravity of his situation by crediting his bullies for setting off this situation. When curing disability is not possible, death is presented as the only remaining possibility (Longmore, 1985; Sandhal, 2019). "What life?! I got no life!" says Al Pacino (Chasnoff, 2020, 0:35) in an extract from *Scent of a Woman* (1992) where he embodies a blind man desperate to shoot himself in his hotel room. Taken together, the extracts presented in the trailer concerning this topic convey the idea that life with a disability is so unbearable that it is not worth living. "Better dead than disabled," states Longmore in 1985 (p.34) to summarize the notion that having a disability means that being part of society and having a meaningful life are impossible.

"The screen image is the sole definer, for the general population, of disability" (Chasnoff, 2020, 0:12) says Mat Fraser, a musician, writer and performance artist who has phocomelia. The fact that films serve as a source of information for those who are not in contact with the disability community (Longmore, 1985; Safran, 1998) has two significant consequences which justify the importance of defining a new narrative in disability representation. First, as movies are the primary reference for this topic, any perspective they convey is likely to be generalized by their audiences and shape the latter's attitude towards it (Hall, 1997; Safran, 1998). As mentioned in *Code of the Freaks'* trailer, the idea that "small people [are] magical" (Chasnoff, 2020, 0:50), the "evil-doer [...] is disfigured" (Chasnoff, 2020, 1:01), or that every disabled person wants to be freed from their condition has been broadly spread, and does not match disabled people's actual perception of their condition. Nevertheless, instead of denying those frames to make space for new ones, Chasnoff uses them to emphasize the contrast between these opposing views (Sandhal, 2019). As the clips succeed one another, the audience listens to the participants' opinions on what should be changed in mainstream cinema to display realistic representations of disability. Not only does this shed light on the problematic depic-

tions in the featured movies, but also extends the aforementioned frames to include issues that have been put aside. Disability is pervasive, impacting one's life physically, psychologically, professionally, and socially. Despite this, Chasnoff's documentary and studies on the portrayal of disability in cinematic work (Longmore, 1985; Markotic, 2008; McRuer, 2019; Safran, 1998; Sandhal, 2019) shows that disability-related movies narrow the topic to a single question: is life with a disability really worth living? This extreme view orients the audience's focus towards the notion of death as the ultimate escape from disability when it should rather be directed towards one's opportunity to flourish beyond their condition.

Chasnoff's video takes the first step toward reframing disability in cinematographic works. (Sandhal, 2019). The alternation of stereotypical scenes from movies with scenes from the various interviews, for instance, emphasizes the fact that there are no commonalities between the disability community seen on screen and its actual members (Sandhal, 2019; McRuer, 2019). This is the trailer's central message: the current cinematic representation of disability is inaccurate. This mere statement is progressive as it contradicts the traditional frames used in films and media over more than a hundred years. The trailer's punchline, "Offend one . . . and you offend them all" (Chasnoff, 2020, 1:39), a line from Browning's movie *Freaks* (1932), emphasizes the broad and harmful impact of this misrepresentation. Indeed, misconceptions conveyed about one character are generalized and affect all members of this character's community by wrongly shaping the attitude of miseducated audiences. Chasnoff's documentary attempts to extend the current and misoriented frames by giving a visual overview of the main misconceptions in disability representation, along with a critical voice-over pointing out their incorrectness. In doing so, the documentarist places actual perspectives of disabled people at the heart of the discussion, making *Code of the Freaks* an inclusive movie about disability by members of the disability community and for all members of its audience.

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