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## EDITORIAL

It is with extreme pride that we introduce to you the eighth edition of ESTRO, the University of Essex Student Research journal. ESTRO is a multidisciplinary academic journal, run by and for the students of the University; it provides students at all levels of study the opportunity to publish excellent writing, whilst constantly striving to strengthen and widen the growing academic community within the University. As with previous editions, the issue for this academic year hosts a collection of some of the highest standards of work written by our own students here at Essex. This particular issue of ESTRO presents a diverse collection of research papers, spanning across a multitude of academic disciplines; beginning with a political slant, this edition progresses through the fields of economics and philosophy, before moving towards a more language and film based approach. We are also very excited to be introducing you to the winning entries from our Flash Fiction competition; the students were challenged to create a 300 word creative writing piece inspired by an image of the Curies in a laboratory and the topic of 'The Art of Research', and they did not disappoint! The first and second place submissions close this edition of the journal.

The articles include endeavour to assess, challenge and inspire, providing a brilliant mixture of theoretical and creative study; every paper offers opportunity for mental stimulation, allowing readers to broaden their academic horizons and challenge the accepted perspectives of a wide range of academic disciplines.

Opening the issue is Ruairi Hipkin's article "Is it right in 2015 to describe Northern Ireland as a "consociational" democracy?" Hipkin's paper contemplates the political make-up of Northern Ireland, considering whether Arend Lijphart's conception of a "consociational" form of government can be applied to the country. After studying Lijphart's theory and its relevance to the political situation of Northern Ireland, the article concludes that Northern Ireland cannot be considered wholly "consociational" according to the outlined definitions, but insists that certain factors can lead it to be instead considered an untraditional form of "consociational democracy".

Following this political theme, Bozena Fesiukaite's study explores the reality of corruption within political systems. The article, "Corruption through Political Practices and Institutions" examines the more unethical practices present throughout the democratic system, whilst considering possible solutions to the conundrum of corruption. After thoughtful consideration, Fesuikaite's article acknowledges corruption within democracy to be a "necessary evil", expressing the need for careful and thought through provisions within the political system.

Progressing into the field of economics, Valentinas Civinskas paper, "An assessment of the problems affecting money markets during the Financial Crisis of 2007-08", provides an explanation of the technical workings of the money markets during and after the crash of 2007-08. Paying close attention to the instrumental role that repo played, Civinskas

analyses the causes of the financial crisis and strives to ensure that the need for a new financial mechanism is felt, in order to prevent future economic failures.

The next article is entitled “Merits and Shortcomings of the Black-Scholes-Merton (BSM) Approach: An analysis of the role of volatility”, written by Eleanora Cambone. Cambone’s paper aims to assess the Black-Scholes-Merton financial model, highlighting both its validity and its limitations. Cambone explains the basic assumptions of the BSM approach before analysing the model and concluding that, although its versatility has meant that it is still widely used in the contemporary financial world, caution should be exercised when empirically employing the approach.

In the fifth article, Adeleke Fowokan contemplates the state of Global Health in our contemporary society in “Global Health in the 21st Century: The Need for a Strategic Funding Plan”. The paper addresses the flaws within the current funding of health systems and discusses how they are affecting the populations of low and middle income countries. Fowokan then offers her own strategic solution to the funding issue, merging two pragmatic approaches in order to adjust for the pre-existing inadequacies in both.

Dauda Gayus Hamman’s article takes the form of a literature review, analysing the research findings of 10 studies involving preterm infants; in his article “The Promotion of Exclusive Breastfeeding in preterm Infants using Cup Feeding: a literature review”, Hamman compares and evaluates the effectiveness of cup feeding in promoting exclusive breastfeeding in preterm infants opposed to bottle feeding. Hamman’s statistic-field study ultimately concludes that evidence would suggest that cup feeding preterm infants (compared with bottle feeding) results in an inability to maintain exclusive breastfeeding after hospital discharge, as well as other negative effects that are explained throughout.

Next, Charlotte Clark presents the results of her practical experiment in the article “Visual-Spatial Attention: Can Sounds Affect Perception of Visual Objects?” The aim of the study was to investigate whether the addition of sound can alter visual perception and the paper outlines the methodologies employed to test this theory. Whilst providing the outline and results of her own experiment, Clark simultaneously draws upon the existing research within the field. Her study concludes that although there is promise for further research within the topic, the stimulus driven spatial attention can be sensitive to methodological issues.

Christina Ionela Neokleous continues this series of submissions with her article entitled ““Only through science we can establish certain knowledge about management and accounting”: A Critical Evaluation”. Neokleous brings together the fields of social science and management and accounting within her paper as she addresses the philosophical approach of positivism. The article considers the positives and negatives of this widely debated approach and Neokleous concludes that, in terms of accounting and management, positivism may not thoroughly examine the real life factors and contexts that play a significant role in the outcomes of human behaviours.

Continuing this more philosophically orientated trend is the article “Could Language Supersede the Aesthetic as the Subjective Ground for Experience?” Henry Downes approaches the philosophical works of Immanuel Kant and twentieth century philosopher Wittgenstein as he attempts to consider whether language can be considered as a fundamental ground of experience, more so than the spatial-temporal fabric of reality. Downes’ essay offers great technical insight into the philosophical musings of these prominent philosophers and ultimately concludes that whilst Kant’s theory does not specifically regard mental behaviour as linguistic, it does not appear inconsistent with his body of work.

Passing from philosophy to linguistics, Raluca Diana Papuc’s article, “Language Variation, Language Attitudes and Linguistic Discrimination”, addresses a linguistic issue present within our contemporary world, as her paper exposes the linguistic discriminations and language attitudes affecting certain members of society. Papuc’s article uses credible studies within the field of language and linguistics to demonstrate how people regard accents that are different to their own and how those with so-called “less desirable” accents suffer accordingly. Papuc concludes her article with the idea that the relationship between language variation, language attitudes and linguistic discrimination is socially formed and symbiotic.

In a similar vein, Berta Badia Barrera’s article follows. The paper is entitled “Switzerland: Managing Multilingualism at the Societal Level”, and offers an in depth analysis of the multilingual makeup of Switzerland; the linguistic tensions that have arisen throughout the country’s history are acknowledged and explained, but the ultimate conclusion recognises Switzerland’s general linguistic stability. The article employs geographical, political and historical evidence whilst remaining firmly within the field of linguistic study.

Concluding the academic portion of this edition, we delve into the world of film through Lori Cantwell’s article, “The Shock Value of Ladislav Starewicz’s *The Cameraman’s Revenge*”. Cantwell engages with the cinematic history of animation, highlighting Ladislav Starewicz’s *The Cameraman’s Revenge* as an innovative and pivotal moment within the stop-motion tradition. This article focuses on the techniques and content of Starewicz’s work that have earned it its shocking reputation, yet prestigious place within cinema. Cantwell’s study considers the relation of Starewicz’s piece with human nature, offering thoughtful contemplations about why such a shocking work resonates with the human experience.

Finally, we present to you the Flash Fiction creations: first prize winner Marieke Sjerps with her piece ‘Marie Curie’, and runner-up David Quinn with his fiction ‘Towering Among Giants’. Both short fictions are beautifully constructed and well written, and the completely different thematic subjects demonstrate the depth and power of human imagination.

To conclude, we would like to say a huge and truly heartfelt thank you to everyone that has contributed to this edition; from the authors of the articles, to everyone involved in the editorial and publishing process behind the scenes here at ESTRO, your brilliant ideas and hard work is what makes the journal. Special thanks must be given to the previous editor Kristina Siosyte, who not only contributed greatly to the preparation of this issue during her time as editor, but also created and began the Flash Fiction competition. We are extremely proud to have been involved in this publication and hope that you gain as much enjoyment and intellectual stimulation from reading this edition as we did in bringing it together. The articles within these pages are a testament to the intellect and creativity of the students here at the University of Essex.

*Charlotte Stiggear, Editor*  
*Jess Redfern, Editor*

# Is it right in 2015 to describe Northern Ireland as a “consociational” democracy?

Ruairi Hipkin

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## ABSTRACT

Arend Lijphart suggested that there was a form of democracy designed for countries in a “power sharing” agreement. Whilst he conceived his theory to apply to his home country – the Netherlands – it could very well be that his theory can apply elsewhere. This outlines the basic premise of this essay, with Northern Ireland being a potential candidate in this case.

The essay begins by exploring what consociationalism is, before then exploring politics in the context of Northern Ireland. To begin the substantive discussion, the essay applies consociationalism theory to Northern Ireland, whilst starting as a “checklist”; one can soon realise that Northern Ireland does not fit the typical model of consociational democracies. However, we find that it does have a power-sharing model, and the essay concludes that whilst not having all the hallmarks of consociationalism, Northern Ireland could be said to have some form of a consociational democracy.

## Introduction

Northern Ireland is an interesting “anomaly” in the political setup of the United Kingdom. Every other constituent part of the United Kingdom has a political system which has the potential to return single-party governments, with coalitions occurring as a result of electoral choice rather than constitutional necessity. However, this is not the case in Northern Ireland. This essay seeks to explore whether a form of government, known as consociationalism, exists in Ireland. As will be shown, “consociationalism” is so unique that one cannot depend solely on textbooks to define it, or define examples thereof, and thus, this essay seeks to show that one should consider a practical example – that of Northern Ireland - since practice differs from theory.



### What is Consociationalism?

As Lijphart (2004) suggests, it is immediately obvious that deep societal divisions create a great problem for democracy. He states that there are two essential aspects to consociationalism: power sharing and the autonomy of each constituent group. He defines power sharing as the idea that all groups involved should participate in making decisions. This is especially true at the executive level. He defines group autonomy as two groups being autonomous in their own affairs, especially education and culture (Lijphart, 1977). Robert Dahl also states that all of the significant leaders of a plural society should be involved in decision making, and that there should be a power for decisions about subcultures to be taken by the leaders of that particular subculture (Dahl, 1989). This essentially recharacterises Lijphart's statements above.

It could be argued that consociational democracy is the epitome of compromise. Bentley defines compromise as the process whereby groups with mutual interests interact (Bentley, 1955). Consociational governments are usually comprised of such groups (or groups from various parts of society joined together by one uniting feature), joining for the good of the country.

In the context of Northern Ireland, McEvoy posits that consociationalism is how interethnic conflict can be managed (McEvoy, 2008). This could be borne out through O'Leary's statement that inclusion of radical parties in Government seeks to moderate, whilst their exclusion puts the stability of power sharing at risk (McGarry & O'Leary, 2004).

Finally, Lijphart sets out four elements that are necessary for a consociational democracy to remain in place:

1. The ability of elites to accommodate divergent interests and demands within their own culture.
2. The elites must be able to transcend cleavages and cooperate with elites from other cultures within their society.
3. The elites must be committed to maintain the status quo and improve its coherency.
4. The elites must understand the results of political fragmentation.

This is based on Lijphart's secondary definition of consociational democracy as a process whereby a country with a fragmented democracy develops a stable democracy (Lijphart, 2008). Lijphart's definition has been unquestioned, and thus it is his definition used throughout this essay.

### **An Introduction to Northern Irish Politics**

Before embarking on the substance of this discussion – whether the Government of Northern Ireland is consociational in nature – it is worth examining the context of politics in Northern Ireland.

The Belfast Agreement (commonly known as the Good Friday Agreement) created three “strands” of Government. They are the Northern Ireland Executive and the Northern Ireland Assembly; cooperation between Northern Ireland and the Republic of Ireland through the North-South Ministerial Council and related bodies; and cooperation between the Governments of Great Britain and the Republic of Ireland.

Members of the Northern Ireland Assembly are required – upon taking their seats – to designate themselves as members of one of three categories: “unionist”, “nationalist”, or “other”. “Unionists” wish to remain within the United Kingdom. “Nationalists” are those who would favour Northern Ireland joining the Republic as one country. This is important because in some matters of importance (such as election of the Presiding Officer of the Assembly), cross community agreement is required – i.e. agreement is needed from both the unionists and the nationalists (McEvoy, 2008).

The Northern Ireland Executive is also representative of this idea of general intercommunity; the post of First Minister of Northern Ireland must be held by a person from the largest party according to community designation, with the post of deputy First Minister going to the second biggest party by community designation. For instance, in the current executive, the Democratic Unionist Party (the DUP) is the largest party by community designation, therefore Peter Robinson, a representative thereof, is the First Minister. Since Sinn Fein is the second biggest such party, Gerry Adams is the deputy First Minister (McEvoy, 2008).

### **Is Northern Ireland a Consociational Democracy?**

In this section, it is necessary to take the elements of consociationalism explored above, and attempt to apply them to Northern Ireland. This part of the discussion begins with

the proposition that Northern Ireland is a consociational democracy. In examining the effects of the Belfast Agreement – which set up the current Irish political system – on governance in Northern Ireland, Paul Mitchell has stated that Parliamentary democracy, as is commonly defined, is not known in Northern Ireland (Mitchell, 2001). If this is so, then the Belfast Agreement has surely failed. Yet, it appears that the Belfast Agreement has broadly achieved what it set out to do; restore some form of government to Northern Ireland. To explore this further, Mitchell has given the classic definition of a parliamentary democracy as executive accountability to the legislature, by and through procedures of no confidence (Mitchell, 2001). However, Northern Ireland is not a classic parliamentary democracy, as Mitchell states that neither the diarchy of the First and deputy First Ministers, nor the entire Executive, can be dismissed en masse, for whilst the Assembly can remove a single minister by votes of no confidence, the party from which he comes will nominate a replacement for him. Therefore, due to the nature of the Belfast Agreement, consociationalism (or power sharing) is built-in and unavoidable.

Within the Assembly itself, consociationalism is ingrained. For certain key decisions, there must be intercommunity agreement, obtained through one of two measures – either “parallel consent” or “weighted majority”. This arises because of a rule under the Standing Orders of the Assembly that requires members to designate themselves as part of one or two “communities”: nationalists or unionists (see above for a fuller description). Failure to make such a designation automatically leads to the Member being designated as “other”. Mitchell states that in order for something to pass the Assembly through the parallel consent procedure, there must be an absolute majority voting in favour from both communities. The less onerous “weighted majority” procedure requires that there should be 40% of votes from each bloc in favour, and 60% of all the votes overall (Mitchell, 2001).

Lijphart refers to the need for a “grand coalition”, asserting that one of the primary characteristics of consociational democracy is that all of the leaders of various populations in a society should work together to govern the country (Lijphart, 1977).

It appears that the Northern Irish Government is a “grand coalition” as described above. The Northern Ireland Executive works on a “cross-community basis” (Bew, 2006). By Tonge’s description, it appears that the Northern Irish executive is almost certainly a “grand coalition”; he describes the Northern Irish Executive as being created from members of the Northern Ireland Assembly depending on the D’Hondt method of selection (Tonge, 2005). Due to the need for cross-community representation, and the nature of how D’Hondt works, representatives from both major sectors of society in

Northern Ireland (Catholics/republicans, represented by Sinn Fein, and Protestants/unionists, represented by the Democratic Unionist Party), will be included in the Government. Therefore, the first element of Lijphart's definition of consociational democracy is met.

Lijphart then goes on to state that government should be by mutual veto, as described above, or concurrent majority (where there is a majority in both communities). Lijphart actually subdivides this concept into three sub-concepts: the mutual veto itself, proportionality, and segmental autonomy. These are all apparently interrelated (Lijphart, 1977), and thus will be explored in turn.

The mutual (or minority) veto is provided in order to allow each individual interest group involvement in the Government to protect itself. Of course, as Lijphart points out, the problem with the minority veto is that it can lead to tyranny by minority – that is, the minority will continue to veto the majority. Of course, this can backfire as each separate constituent community has its own veto; meaning the veto could be used in turn against the minority (Lijphart, 1977). It is arguable that the “mutual veto” exists in Northern Ireland. More often than not, the Northern Irish Government has collapsed (or had its powers withdrawn by the Secretary of State for Northern Ireland) because the various parties have disagreed with each other – or vetoed one another. Indeed, Northern Ireland's longest suspension of Government occurred in 2002 after Sinn Fein refused to power share – effectively vetoing the government – due to an alleged IRA spy ring in which they were implicated (British Broadcasting Corporation, 2002).

The next concept falling under the heading of “mutual veto” is the idea of proportionality. Jurg Steiner defines this as all groups influencing a decision in proportion to their numerical strength. This means that when parties have a numerical advantage, they wield more influence over a decision (Steiner, 1971). This is evidently present in Northern Ireland. As explored above, the Northern Irish Executive is proportional by design – one must recall that the Executive is drawn from all parties on a “cross-community” basis. However, whether or not there is numerical representation when making decisions is a different matter. Whilst up to three ministers of the Executive can request a cross-community vote, this in no way represents proportionality as defined by Steiner, since the quorum for such cross-community votes is seven ministers, considering the fact that there are six unionists, five nationalists and two “others” (Alliance Party members). Thus, there is not much in the way of proportionality by numbers. Therefore – for the moment – it is best for us to say that there is no conclusive evidence as to whether there is, or there is not, proportionality as defined by Steiner in Northern Ireland. Since this is an

element required of consociational democracies, we cannot now wholly say that Northern Ireland is consociational. Nevertheless, we continue examining the other elements of consociational democracy.

A third subhead of Lijphart's discussions of mutual veto is "segmental autonomy", which he describes as the minority governing its own affairs (Lijphart, 1977). Lijphart is stating that when there are decisions to be made that affect a certain segment of society, that segment should be left alone to make the decisions. The exception to this rule occurs when there are decisions to be made on matters that are of mutual concern (such as, in our case, who the Government is). This does not appear to happen in Northern Ireland. For example, whilst peace lines constructed by the British Army during the British occupation of Belfast (Lauber, 2008) divide Belfast, this does not mean that the nationalists and unionists are autonomous in themselves. Considering how the Northern Irish Government is established (see discussion above regarding mutual veto), and since Belfast City Council is elected under a traditional first past the post electoral system (albeit from multimember constituencies), there is no possibility for any form of consociationalism in this regard.

Lijphart suggests that federalism may also be a potential means to achieve consociational democracy (Lijphart, 1977). This would not work in Northern Ireland. The British constitutional arrangement for Northern Ireland is unwilling to countenance a possible federalism as is known in the traditional sense of the word (save some semi-federalism in the division between local and regional government).

Thus far, a conclusion appears that Northern Ireland is not a consociational democracy. However, it can be assessed further. Lijphart goes on to discuss favourable conditions for consociational democracy. He states that in order for consociational democracy to work, the following factors must be present:

1. A commitment by leaders to democratic practices.
2. Commitment to maintaining the unity of the country.
3. Willingness to cooperate with their counterparts from other segments of society.
4. Leaders must be able to maintain the support of their followers.

(Lijphart, 1977)

Examining Northern Ireland, one can see that thus far, the leaders of Northern Ireland have committed themselves to working towards democracy, through the First and deputy First Ministers' negotiating power sharing deals after every election, or when new powers are devolved to the province (British Broadcasting Corporation, 2010). For the same reasons, it appears that the Northern Irish Executive is quite committed to maintaining

the country's unity. Due to the power sharing, leaders of Northern Ireland evidently cooperate with each other, and, finally, they manage to maintain the support of their own followers.

Everything explored above leads to another strange conclusion. Perhaps, the consociational requirements and the favourable conditions described by Lijphart are not a blueprint that can be applied to every situation; it may depend on the constitutional setup of each individual country. For instance, the Belfast Agreement premises that there be a “grand coalition” of sorts (described above), and a mutual veto. These are but two of Lijphart's requirements for consociational democracies. However, as we have seen, the remaining elements are not met, since they are not envisaged in the Belfast Agreement. Therefore, in theory, consociational democracy in Northern Ireland should fail, but it does not. There are still the favourable conditions described above to consider; as has briefly been shown, these are fulfilled.

## **Conclusion**

Returning to the assertion made at the beginning of the previous section, “Is Northern Ireland a Consociational Democracy?”, it was posited that consociational democracy exists in Northern Ireland, and so it does – but not according to Lijphart's requirements for consociational democracy, especially when considering his devotion of an entire section of his book to describing why Northern Ireland is not consociational (Lijphart, 1977). For the reasons set out above, we disagree, and therefore, conclude that consociationalism depends more upon whether states meet the “favourable conditions” set out above (with some influence from Lijphart's definition), rather than Lijphart's definition alone. For all the reasons set out above, it is quite evident that Northern Ireland appears to be a consociational democracy – though not a traditional one.

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## Corruption through Political Practices and Institutions

Bozena Fesiukaite

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### ABSTRACT

The main aim of this article is to look at how corruption takes place through democratic practices and institutions, and their particular features, with the intention of considering their negative effects with respect to encouraging corruption. In addition, possible alternatives for such institutions are examined as well as their advantages and shortcomings for democracy, in order to detect if the existing practices are a “necessary evil”, or whether there are other means that could reduce and/or abolish corruption. After examination of the effects of lobbying, campaign finance laws, and electoral systems and their alternatives, it is concluded that such institutions and practices are vital for democracy, as their absence or eradication would put the democracy itself in jeopardy. However, only certain changes within such institutions can be taken in order to decrease the possibility of corruption without causing harm to democracy.

### Introduction

There are different views on the concept of democracy as there are different views of corruption, where the latter is defined as “the abuse of public roles (office) or resources for private gain” (Johnston, 1998, p. 174), whilst there are also as many views on the relationship between them. It is considered that more democratic and greater developed countries are less prone to corruption (Treisman, 2000). However, this statement is not completely reliable (as corruption is still a hidden phenomenon) and such a theory is not supported by a statistically unambiguous statement on specific aspects or differences between countries. The relationship between the democratic system of government and the ability of citizens to hold elected representatives accountable is similarly not straightforward. In practice, citizens struggle to control the corruption of people in power through elections or other such forms of democratic participation. Due to this, corruption within democracies can be perceived as a form of exclusion conducted through democratic institutions and practices, preventing citizens from making decisions that will ultimately affect them. This article examines the areas in which the citizen decision-making process suffers from corrupt activities, and consequently undermines the democratic order itself by creating exclusion. The first section points out the globalization

phenomenon as a root for the appearance of corruption under democratic institutions and practices. The second considers the problem of lobbying, defined as “a form of legislative subsidy - a matching grant of policy information, political intelligence, and legislative labour to the enterprises of strategically selected legislators” (Hall and Deardorff, 2006, p. 69). The next section highlights the issue of funding political parties (permissive campaign finance laws). Lastly, the final section raises question over how corruption depends upon electoral systems, which, according to the findings of McCann and Redlawsk (2006), are perceived by the public as the least corrupt activities. Whereas lobbying and funding of political parties should be examined on an individual level, in so much as they are the vehicle of formation and promotion of citizen’s political preference, the electoral system should be regarded on an aggregate level, containing the rules on how the formatted preferences are cast, embodied by the government of the state. The main aim of this research is to evaluate the effect that corrupt activities have upon democracy, alongside possible alternate solutions and the efficiency of their implementation, concluding that such democratic practices and institutions are a “necessary evil” for a democratic regime.

### **Globalization and the Decline of Authority in Governments**

The phenomenon that helps to explain how corrupt activities take place under democratic systems of government can be explained from the following perspective. Electoral democracy is arranged and designed in a way that implements policies for a clearly defined territory, along with the irrefutable approach that elected governments are supposed to be accountable to the electorate. However, in the context of economic globalization, the ability of democratically legitimised state power to create laws and implement policies within their state is reduced (Das and DiRienzo, 2009). Meanwhile, as the ability of governments and parliaments to implement their own policies has been steadily declining as a result of globalization, democratic decision-making processes have gradually become subject to erosion by transfer of responsibilities to administrative, regulatory, and specialised institutes of authorities. These "guardian" organisations are characterised by a large degree of autonomy and professionalism, but also lack public accountability and control (Rose-Ackerman, 1978), making them potentially dangerous from the standpoint of oligarchy and corruption. As a result, the on-going process of globalization exists at the root of how corrupt activities can take place under democratic norms without violating the law, but undermine democracy itself. Identifying the source of the problem can help to abolish the erosion of democratic norms, and strengthen institutions in order to minimise the harm of corruption.

## Lobbying and Interests of Corporations

Democracy, as well as social decisions, increasingly becomes a matter of relations between political institutions and economic power, and less representative of the relations between citizens and elected representatives. Some researchers propose that “lobbying and corruption are substitutes” (Braddon and Hartley, 2013, p. 173). It is distinguished according to the level of development, meaning that corruption tends to occur when the level of development is low, whilst such activity can be translated into lobbying when the level of development is sufficiently high (Harstady and Svensson, 2009). Moreover, regardless of the development of the state, lobbying tends to be a much more effective instrument for political influence than corruption (Campos and Giovannoni, 2007). Many thousands of organisations lobby to influence, as evident in the policy of the European Union and at the level of national parliaments of many European states. However, unlike the U.S. or Canada with their historical traditions and legal norms of lobbying, lobbying in Europe is not regulated and therefore is perceived as secret, suspicious, and dubious.

Klaus Beckmann and Carsten Gerrits (2008, p.1) argue that if we compare the effects of corruption and lobbying as alternative modes of rent-seeking activity, the latter is worse as lobbying represents wasteful, directly unproductive activity<sup>1</sup>, “reducing social welfare relative to the corrupt status quo”, if corruption is fought. However, such claims can be considered invalid; lobbying itself is a legal action and does not contain an explicit corrupt deal that carries the informing of selected representatives. In other words, it creates a bridge between the electorate and those who were elected, acquainting them with the opinion of certain segments of the society. Moreover, plurality of interests is one of the main principles of a democratic society (Dahl, 1989), where people are free to organize and promote their interests in the policy creation process. Corporatism represents one of the ways in which interest groups are involved in the policy-making process that is institutionalized in many European countries, together with lobbying, another widespread phenomenon. This is why the lobbying itself should not be regarded as a type of corruption, as it is a legal form of influence technology.

However, it is possible that the outcomes of lobbying may represent corrupt activity. The problem is hidden within the fact that, when considering the presence of lobbying,

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<sup>1</sup> Directly unproductive profit-seeking (DUP) activities are defined as ways of making profit (i.e., income) by undertaking activities that are directly (i.e., immediately, in their primary impact) unproductive, in the sense that they produce pecuniary returns but do not produce goods or services that enter a conventional utility function or inputs into such goods and services. See Bhagwati, Jagdish N. (1982). *Directly unproductive, profit-seeking (DUP) activities*. The Journal of Political Economy, pp. 988-1002

policy-making processes might be influenced only by certain (particularistic) interests that are promoted by interest groups. Such ideas do not necessarily represent the preferences of the whole public, or at least its majority. On the other hand, the provision of arguments by interest groups in a persuasive manner, exchanging for a certain favour out of policy, does not seem unconvincing since it is an unequal exchange. As conventional wisdom suggests, regular corruption scandals in the U.S., European Union and other countries at the highest level where prominent lobbyists and government officials are implicated, presumes the possibility of bribery that resultantly corrupts the nature of lobbying. This is where the notion of Legislative Subsidy (Hall and Deardorff, 2006) comes from, as lobbying is somewhat a subsidy for entrepreneurship of legislator, requiring a high position of legislator and aiming not to convince him or her, but to instead subsidise the resources of those legislators, whose preferences are shared with interest groups. Nonetheless, the alternative proposes to ban lobbying activity, which would harm the democracy in a more severe way than lobbying itself, potentially being perceived as a disregard of the human right of self-expression and determination. Whilst democracy promotes a right to be involved with the decision-making process, especially if the person is directly affected by the authority's decision, this would undermine popular participation.

### **Funding of Political Parties**

Elections and competition between political parties also conform to the main features of democracy, the competition of candidates for political offices and of political parties for votes being at the heart of the democratic process. In addition, political parties play a major role in the concentration of the political will of citizens, through the nomination of their candidates in the elections; this is why it is believed that democracy is impossible without political parties (Dahl, 2000). Financial sources are vital in order to ensure the existence of political parties, as well as participation in the competition of political ideas and positions during election campaigns, to mobilize the potential electorate. In a competitive atmosphere of democracy, it follows that political parties and candidates feel the constant need for funds (Kallen, 2009). Consequently, political competition becomes less centred upon the competition of ideas and ideologies, and more upon the economic component. This creates a noticeable imbalance since the parties become increasingly dependent on external financing, and accordingly, drift away from their electorate and become more vulnerable to corruption and undue influence. Despite the political system or the system of parties and their ideological orientation, political corruption ensuing from party funding is a constant problem; almost every European democracy faced a

serious problem of equitable division of funds and their adequacy for parties (Sorauf, 1992).

There are several ways for political parties and electoral campaigns to be financed. In addition to membership dues and state aid, an important (and often controversial or scandalous) role is played by private gifts and donations. However, the problem of private donations and gifts as funding for campaigns and parties increases in importance and topicality, as in many countries there is a steady decline in membership of political parties (Bartle and Bellucci, 2009). Unregulated funding of political parties carries risks, such as an increase in political nervousness. For example, the principle of "one man - one vote" is a subject to question due to possible unequal financial contributions. This idea is challenged by Ortiz (1997), who introduced the concept of democratic paradox of campaign finance reform. The main principle concentrates on the concept that any kind of economic inequality among candidates, or in other terms different financing possibilities possessed, do not influence their success in the elections. Any voter in a properly functioning democratic regime votes according to independent judgement. This puts the civic capabilities of the voters on the agenda, but not the possible sources of funding for the parties.

Furthermore, the risk factor is hidden in the perception that money transferred to the political parties, such as private donations, helps to buy access to state institution or officials if elected. Although, such funding does not directly "buy" a policy, it creates a link to those in power who possess an ability to affect the policy or decision-making process (Johnston, 2005). As previously mentioned, in such a scenario elections cease to be a competition of political programs and ideas, but become increasingly dependent on the success of the candidates and parties in finding sponsors. This leads to the race of populism and propaganda, pushing political debate by the wayside. Consequently, political parties and politicians risk being co-opted to represent particularistic interests and not the interests of the public, undermining basic democratic principles. Finally, unregulated financing of political parties can be regarded as not fully transparent and some funding of political parties is openly illegal and corrupt in their nature; such as sponsorship from illegal sources, or receiving (or requiring) gifts or sponsorship in exchange for services, orders, or a change in attitude of state institutions (Malbin, 1980). Such practices undermine the trust of citizens as there is no guarantee of fair representation, and as a result, their participation in the democratic processes decreases.

A ban on private donations could be suggested as another measure. However, this would undermine democratic legitimacy; private donations to political parties or specific

election campaigns have their place in the legal field, as they represent an important segment of participation in political life, being a means of political expression in a democratic society where citizens have the right to lobby their own private interests. Although these so called forms of "legal corruption" (La Raja, 2008) do not seem completely transparent, their eradication would raise questions concerning democracy in a state itself.

The changes in campaign finance laws are commonly established due to corruption scandals as they happen in Western Europe. As an alternative to unregulated private donations, some countries (and three quarters of all European countries) have introduced a regulated system for campaign financing, in which political parties are required to publish information on the sources of some, or all, without the exception of gifts and donations (Smilov and Toplak, 2007) for an increase in transparency. However, the drawback of such an approach is concentrated on the probability that such regulations can be used in order to control the opposition parties. Moreover, revealing this information and publishing sponsors exposes the political positions and preferences of both individuals and companies, and this can lead to repression. Regulations themselves may limit participation and adherence to democracy, while new or weak political parties can be extruded from the arena of political life (Cutler, Cohen and Witten, 1986), although they represent some sectors (segments) of population. A radical option of abolishing any kind of control over the funding of parties could be successful, but only in countries with a traditional approach and the case-law system, such as Britain (where there is no direct state funding of political activity), and Ireland (Lees-Marshment, 2008). In these countries the legal system has evolved without disturbances and interruptions, and this has contributed to the occurrence of a high level of legal and political culture that does not require a clear definition by law, and is based on precedents, customs or morals, and cultural and ethical norms. As a result, a high level of legal and political culture appears more effective in terms of producing an anti-corrupt atmosphere, rather than enforcing strict regulations and punishment.

The final possible option would be to establish a mixed system of private and direct or indirect state funding of political parties, in order to reduce their dependence on private sponsors and balance the position. Therefore, it is very important to notice that the purpose of any regulation is not to control political life, but to support democracy. Policies on funding political parties serve for the democratic development, not by setting the fight against corruption as the main goal, but as a support and improvement of open political competition among strong and responsible parties. Providing core funding and participation for private interests of individuals and groups in the funding of political

parties and the political process as a whole, is a vital aspect of democracy building. All aspects mentioned above demonstrate the need for an equal balance between providing sources for political campaigns and control over corruption.

As an illustrative example, two main political parties in Mexico (National Action Party and Institutional Revolutionary Party) were convicted of receiving opaque funding for political campaigns. Nonetheless, according to the Mexican public opinion, "the real scandal [was] not the money the parties may have raised on the side, but the huge amounts they [were] given up front from public funds" (Campaign finance in Mexico, 2003). Concern was raised over the fact that 90% of money required for campaigns came from taxpayers, and only one tenth from private sources. Such regulations are designed to avoid money from illegal drug businesses entering the political life and decision-making process. However, the problem with campaign money coming from taxpayers lays in the fact that such money "keeps alive a number of small parties that have no other apparent life" (Campaign finance in Mexico, 2003). As a result, Mexican campaign funding rules illustrate the problems described above, noting that both private and public campaign funding possess a threat to the transparency of elections and consequently, the validity of their results and effectiveness in terms of representativeness and purposeful money expenditure, respectively. Moreover, even if the mixed funding system were present (as in the Mexican case: 90% for public and 10% for private funding), the problem may not be solved. Thus, the question regarding the proportions of private and public funding allowed is raised as is their appropriateness, according to the specific country's features that conclusively determine the success of the funding scheme chosen.

### **Electoral Systems**

Elections are the main mechanism in a democracy allowing citizens to participate in politics by choosing their representatives, through party identification and self-expression in the voting process. For example, majoritarian and proportional electoral systems contain different electoral formula (the way in which the votes are translated into seats), ballot structure (Closed-list or Open-list) and district magnitude (low and high). Academic literature proposes different arguments in favour of either proportional or majoritarian (Faller, Glynn and Ichino, 2013) systems in terms of the higher levels of corruption they possess.

Despite some shortcomings of the majoritarian system, such a system is regarded as more accountable in comparison to the proportional system, as voters are directly linked to the elected officials, thus helping them to impose the responsibility on certain politicians for

corrupt behaviour (Torsten, Tabellini and Trebbi, 2003). As for proportional representation, scholarly findings vary concerning the different ballot structures used. For instance, how do we know that candidates in a Closed-list were chosen without the help of corrupt means? One possible solution would be to provide rewards and positions within a party to the bureaucrats as an exchange for information on corrupt behaviour of party leaders (Gingerich, 2009). Such a claim is supported by Vincenzo Verardi (2004, p.8), who stated that politicians' position in the Closed-list ballot depends on "the preferences of the leader of the party", which gives a basis for interparty competition and possibility of corruption. Nonetheless, such an approach is challenged by Chang and Golden (2006) who find that proportional representation provides a higher risk of corruption in Open-list systems compared to Closed-list; however, only if District Magnitude is taken into account. Following on from this, an increase in District Magnitude (more than 15) under Open-list in the proportional system corruption increases, but decreases under Closed-list with high District Magnitude. However, if the District Magnitude is low (below 15), Closed-list ballot structures tend to be more corrupt.

In addition to this, Myerson's (1993) game-theoretic analysis, that explores the effectiveness of different electoral systems for reducing government corruption, confirms the notion that proportional representation is more effective in fighting corruption. Simultaneously, plurality voting is "partly effective" due to the more vulnerable strategy for every individual to cooperate with like-minded voters, whereas the initiative to fight corruption is low. At the same time, Myerson concludes that Borda voting<sup>2</sup> tends to be absolutely ineffective, as regardless of whether corruption is present in a party, affirmative voters may divide their support among several affirmative parties. Moreover, Borda voting guards vote share of corrupt parties, as the voters give their preference to a number of parties. Proportional representation and approval voting possess similar effect: they equip the voter with the freedom to choose noncorrupt parties or join like-minded allies. It creates a zone of competition for the parties that are similar in their manifestos, but differ in corrupt behaviour, where voters are predisposed to choose the latter. As a result, the noncorrupt parties receive the majority of the votes, which leads to the establishment of noncorrupt government.

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<sup>2</sup> Each voter ranks the  $m$  candidates. A candidate receives a score of  $m - k$  for appearing in  $k^{\text{th}}$  place. The candidate with the highest aggregated score wins the election. See Davies, J. (2011). *Complexity of and Algorithms for Borda Manipulation*. Association for the Advancement of Artificial Intelligence.



## Conclusion

In summary, despite the shortcomings listed above, democratic institutions and practices such as lobbying, funding of political parties and electoral systems are a “necessary evil” within democracy. Regardless, such practices possess high opportunities for corrupt behaviour due to their institutional features. The proposed alternatives possess a more serious threat to democracy and its main principles, as most of the alternatives (as in lobbying cases) disrupt the citizens’ right for self-expression and political participation, resulting in the whole system becoming less accountable and efficient. As a result, some anti-corruption measures can themselves cause political disputes (with allegations of corruption being used as a tool against political opponents), or even become a way to limit civil rights and liberties. Nonetheless, certain tools for controlling lobbying and funding of political parties (mixed system of financing) can help limit the influence of the private sector on the political life, and ensure the viability of the politics. As for electoral systems, proportional representation is the least corrupt form and in a presence of high District Magnitude, Closed-list ballot structure should be chosen in order to prevent corrupt behaviour (the same corruption reducing effect is presented for approval voting), whereas proportional voting with low District Magnitude should be based upon Open-list ballot structure.

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## **An assessment of the problems affecting money markets during the Financial Crisis of 2007-08**

Valentinas Civinskas

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### **ABSTRACT**

This paper provides an examination of the main problems affecting money markets during the Financial Crisis of 2007-08. Analysis revealed that the most influential problem affecting short-term debt was in repo agreements (repo). Moreover, one of the major roles during the financial crisis was played by the dealer banks, who acted as intermediaries in the securities market. This investigation explains how uncertainty in the repurchase agreements led to an increase in the repo haircuts, which was equivalent to substantial withdrawals from the banking system and increased systematic risk. As a result, repo caused an incentive for the financial crisis which had a tremendous impact upon the economy. This research paper concludes that creating a new financial mechanism is vital. Therefore, in order to prevent any possible failure in the future, government needs to ensure that it is taken seriously by providing liquidity support, recapitalisation of distressed banks, whilst also strengthening interbank lending guarantees.

### **Introduction**

As claimed by famous British Historian Ferguson (2012) in his speech, financial markets have been deregulated for more than two decades: “Deregulation in the two decades after the election of Ronald Reagan led to the “disappearance” of thrift from American society and to excessive risk-taking by banks. Deregulation had no macroeconomic benefits; in fact, productivity declined” (Ferguson, 2012, p. 1). As a result of this deregulation, favourable circumstances emerged for the new financial instruments. Gorton and Metrick (2009) stated that the Panic of 2007-2008 was a run on the sale and repurchase market (the “repo” market). The repo market is a very large, short-term market that provides financing for a wide range of securitization activities and financial institutions. This paper will discuss the main problems affecting money markets in 2007-08.

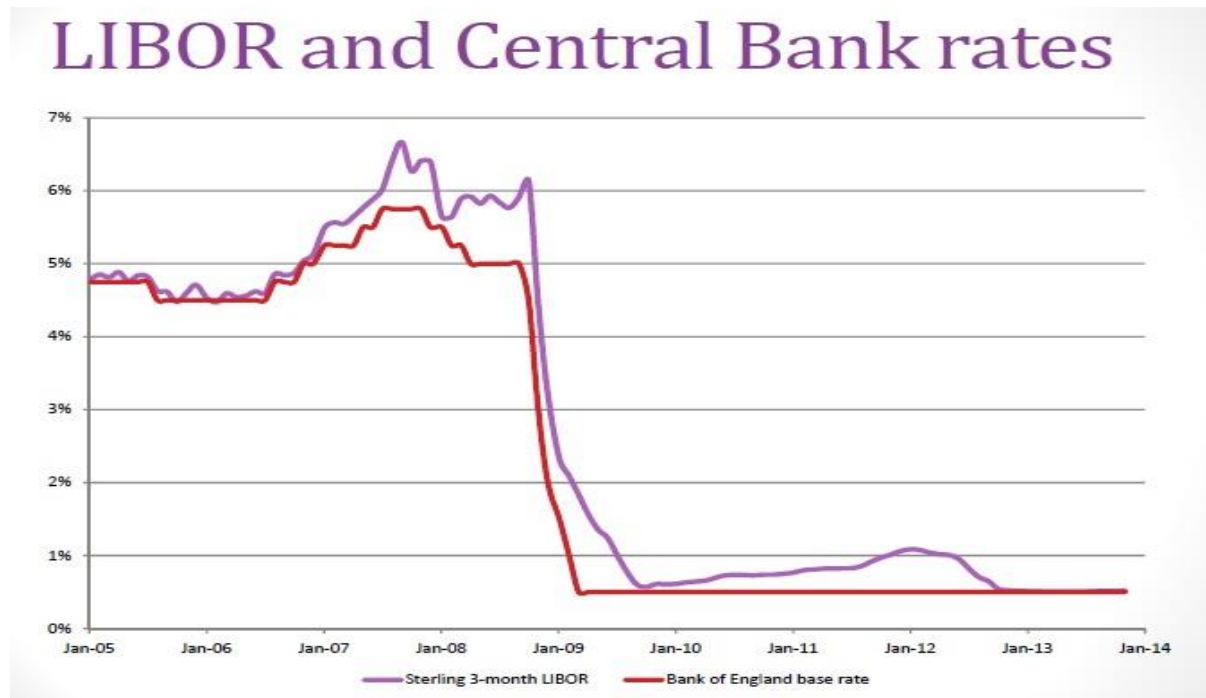
The first part of this essay will offer a brief explanation of the nature of the financial instruments and markets whilst the second will describe how a bank run arises. Finally,

this article will conclude with a summary of how the phenomenon affected the money markets.

### **Financial Instruments and Markets**

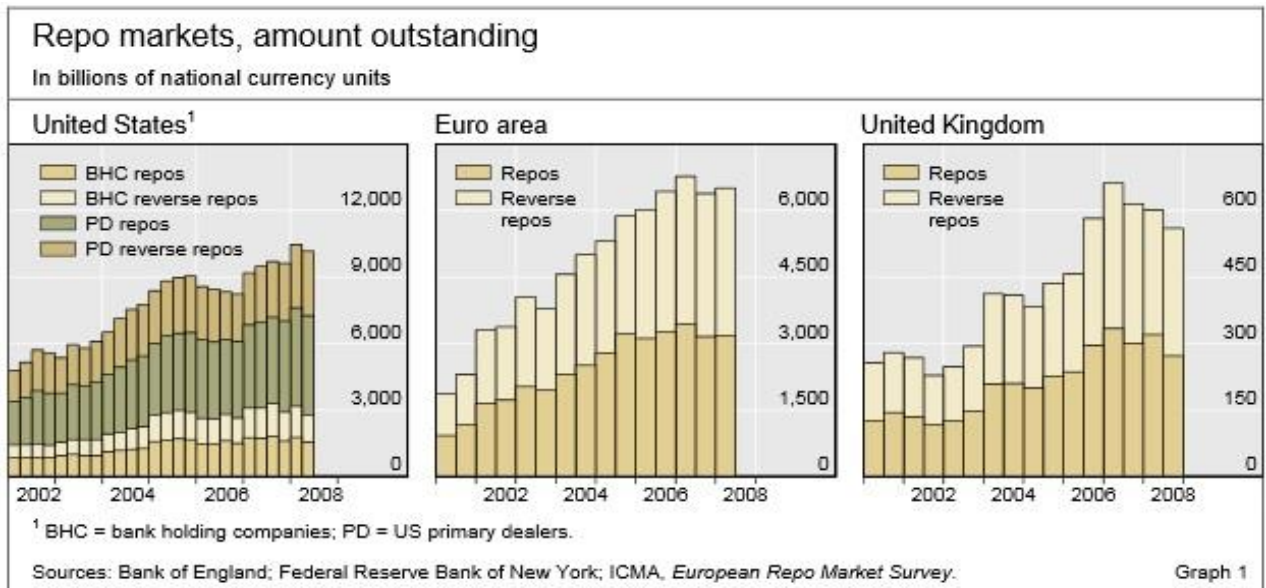
Money markets are a segment of the financial market in which financial instruments with high liquidity and very short maturities are traded, usually for less than one year. Money markets bring together borrowers and investors without intermediation by banks. The recent problems affecting money markets in 2007-08 took place in the securitized-banking” system, when banks were willing to lend to each other: “The Global Credit Crisis first erupted in summer 2007; in particular, on August 9, 2007, the short-term funding market and interbank lending all but froze” (Shin, 2009, p. 102).

It is worth initially referring to LIBOR (the London Interbank Offered Rate), which is used as a base rate for many financial transactions; in particular, the three-month LIBOR rate which is considered very safe. Based on Arnold’s (2011) research, the official LIBOR rates are calculated by the British Banking Association (BBA) as a panel of 16 UK and international banks are asked at what rates they could borrow money as unsecured loans of various maturities. The loans between banks are made not just in sterling, but in a variety of currencies, and take place in London, one of the leading international financial centres of the world. It is illustrated below how the LIBOR rate was changing; during the Financial Crisis it reached a peak of approximately 6.5% in January 2008, whilst in January 2010, the rate was approximately 0.5%. This example is helpful, as it provides a clear sign that confidence had returned to the banking system and that institutions were willing to lend to each other, thus making the economy more stable after the 2007 boom.



LIBOR and Central Bank rates (Source: lecture money market)

Additionally, the most influential problem affecting short-term debt was apparent in repo agreements. Repo markets are markets in which securities are exchanged for cash with an agreement to repurchase the securities at a future date; in the transaction, securities serve as collateral for what is effectively a cash loan. Repo transactions can be of any maturity, but are generally of a short maturity, ranging between an overnight loan and one year (Group, 1999). Repo markets are a vital source of secured financing for banks and financial institutions, and a key tool for the implementation of monetary policy. When considering the Bank for International Settlements Quarterly Review and the diagrams below, it can be observed that the repo markets have doubled in size since 2002, with gross amounts outstanding at year-end 2007 of roughly \$10 trillion in each of the US and Euro repo markets, and another \$1 trillion in the UK repo market (Hördahl and King, 2008).



Repo markets and amounts (Source: Hördahl and King, 2008)

In order to mitigate counterparty risk (the risk of the other side renegeing), some repurchase agreements are “tri-party” repo. Under tri-party agreement, the securities dealer delivers collateral (something pledged as security for repayment of a loan, to be forfeited in the event of a default) to an independent third-party custodian, such as “Euroclear” or “Clearstream”, who will place it into a segregated tri-party account. This arrangement reduces the administrative burden for the cash-investor. Consequently, the yield on the investor’s cash should be slightly higher. This model is illustrated below (Choudhry, 2012):



The model of “tri-party” repo (Source: Choudhry, 2012)



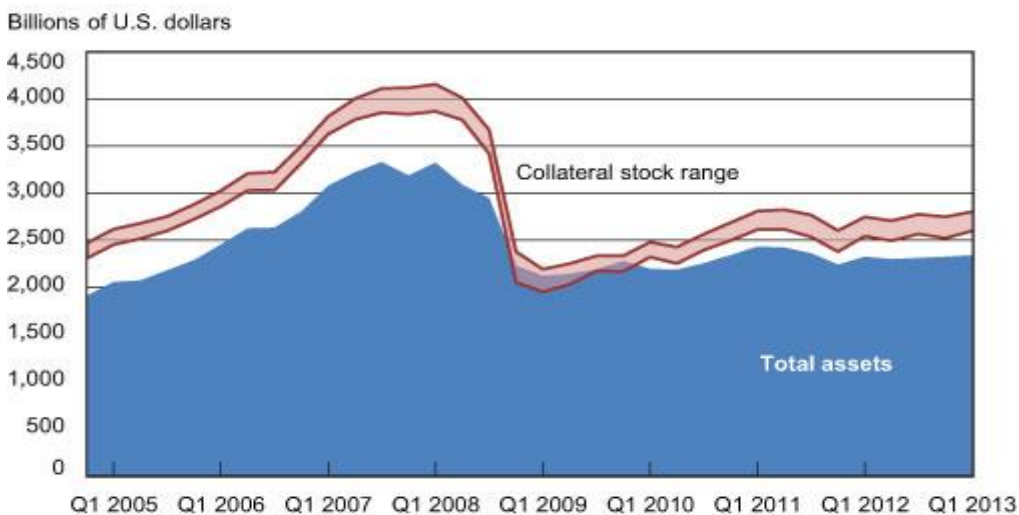
## **Dealer Banks and their Relation to the Recent Problems Affecting Money Markets in 2007-08**

During the recent financial crisis, major dealer banks played an influential role in the collapse of the money market. The dealer bank acts as intermediary in the securities market. In substance, they are often part of large financial organizations whose failures can cause significant damage to the economy. As a result, dealer banks, to some extent, are called “too big to fail” and their actions need to be taken seriously in order to avoid collapse within the money market.

In his research paper, Duffie (2010) argues that, in the primary market, the dealer bank sometimes acts as an underwriter that effectively buys equities (the value of the shares issued by a company) or bonds (an agreement with legal force) from an issuer and then sells them after a time to investors. In secondary markets, dealer banks set a ‘bid’ and ‘offer’ price at which they will trade, making profit from the difference between the two prices. Dealer banks dominate the intermediation over-the-counter securities market, covering bonds issued by corporations, municipalities, certain national governments, and securitized credit products. Securities dealers also intermediate in the market for repurchase agreements.

With the purpose to illustrate and give a better indication of the whole situation, the chart below demonstrates that dealer banks tend to generate stocks of collateral in excess of their total balance sheet during periods with stable market conditions. The chart depicts a starting value of around \$2.5 trillion in 2005 Q1, that reaches a peak of approximately \$4 trillion in 2008 Q1 (Kirk, 2014).

### Collateral Stock Relative to Total Assets



Source: Company 10Q/10K filings; includes GS, MS, and ML.

Note: Bottom line of range excludes cash (lower bound); top line includes cash balances (upper bound).

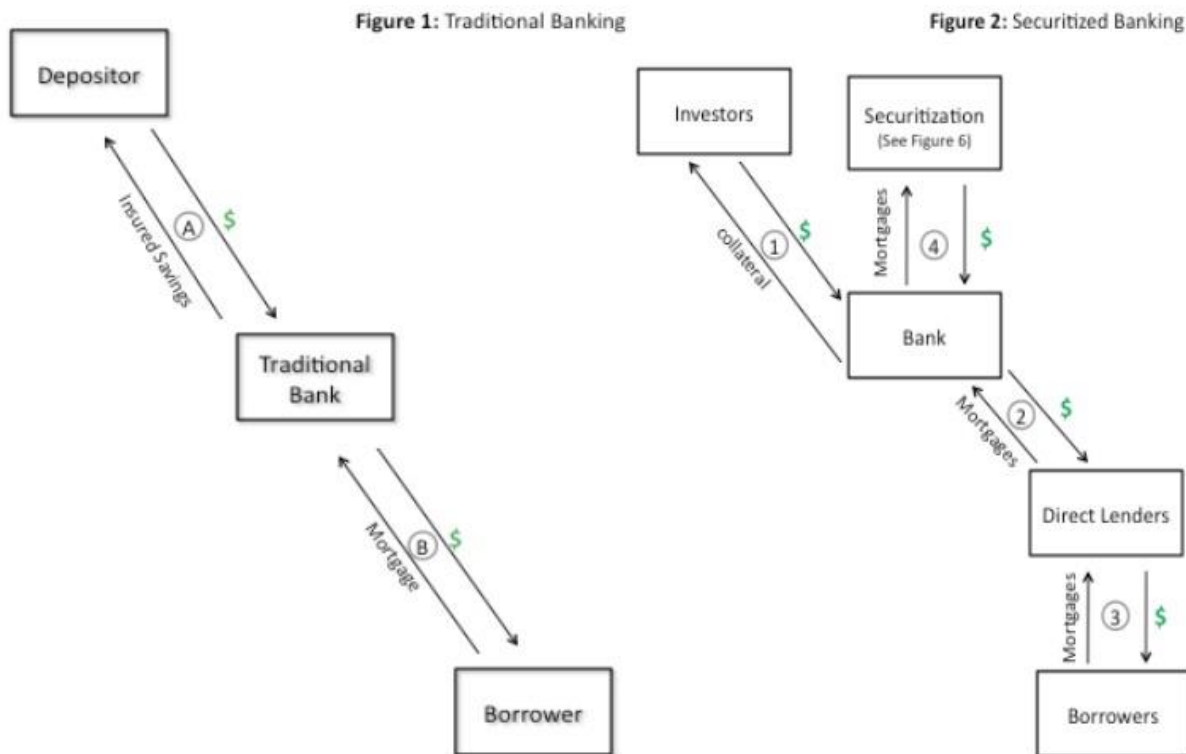
Collateral Stock Relative to Total Assets (Source: Kirk, 2014)

### How a Bank Run Arises?

To begin, bank runs occur when a large number of bank customers withdraw their deposits simultaneously, perhaps due to concerns about the bank’s solvency. A bank run is typically the result of panic, rather than actual insolvency. Once an amount of money is deposited into the bank, it goes into a large pool of money alongside everyone else’s. All banks have reserve requirements; therefore some fraction of the money must be kept while the rest is used to make loans. Reserve requirements are vital in order to avoid a traditional-banking run, which occurs when deposits are withdrawn at the same time. Furthermore, securitized banking, or the shadow banking system as Bernanke (2012) defined, is a diverse set of institutions and markets that conduct traditional banking functions. After the recent problems in money markets between 2007-08, it can be stated that “the biggest threat to the financial system during the crisis was the run of the repurchase market, especially the tri-party operation. Bernanke repeatedly returned to the repo theme, urging the commissioners to include the run on the repurchase market in their research into the causes of the crisis” (Bernanke, 2009, p. 1).

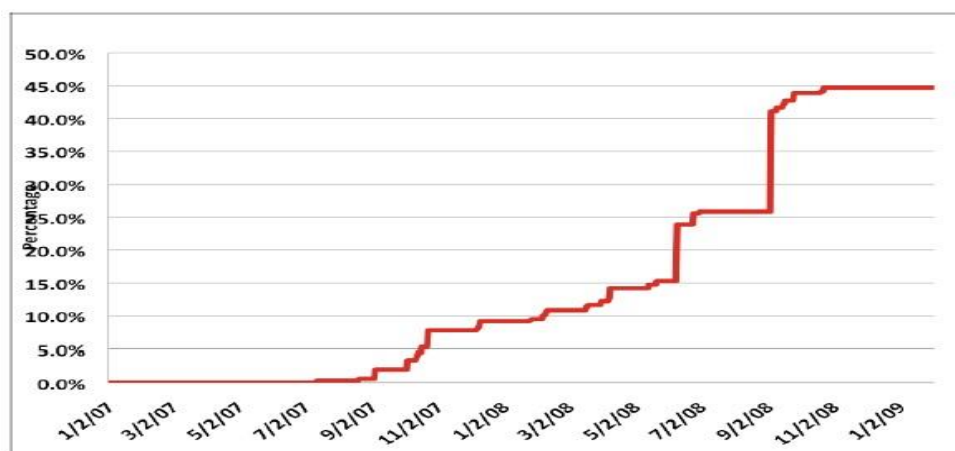
This section is based primarily upon the research of Gorton and Metrick (2009), which distinguished between traditional and securities banking. In the traditional-banking system, deposits are insured by the government as illustrated in Figure 1. The investors are willing to receive similar protection to that of the traditional banking system; therefore, the investor receives collateral in Step 1 of Figure 2. In practice, this is what is

called “repo agreement”. “Haircut” is the difference between the initial and the repurchase prices. It provides the investor with some protection, should the securities (collateral) fall in value before repurchase.



Differences between Traditional and Securitized Banking (Source: Gorton and Metrick, 2009)

The recent “run on repo” can be seen in the graph below, which plots a “haircut index” from 2007 to 2008. The index rose from 0 in 2007, to nearly 45% at the peak of the crisis in late 2008 (Gorton and Metrick, 2009).



Haircut Index from 2007 to 2009 (Source: Gorton and Metrick, 2009)

Just after the announcement of Lehman Brothers Holdings Inc. bankruptcy, the “haircut index” increased sharply in September 2008: “As much as \$75 billion of Lehman Brothers Holdings Inc. value was destroyed by the unplanned and chaotic form of the firm’s bankruptcy filing in September, according to an internal analysis by the company’s restructuring advisers” (McCracken, 2008, p. 1).

Haircuts for repos accurately reflect the overall situation in the recent market that was experiencing many problems. The table below depicts the difference between the typical haircut rates applied before the peak and the rates during the financial crisis in March 2008. For example, looking at the long term investment, residential mortgage-backed securities, AAA (‘triple A’) would have witnessed a ten time increase in haircuts. As a consequence, an increase in haircuts causes very substantial reductions in leverage. Leverage is the ratio of a company's loan capital (debt) to the value of its common stock (equity). This means that lower leverage involves buying less of an asset through use of borrowed funds (Shin, 2009).

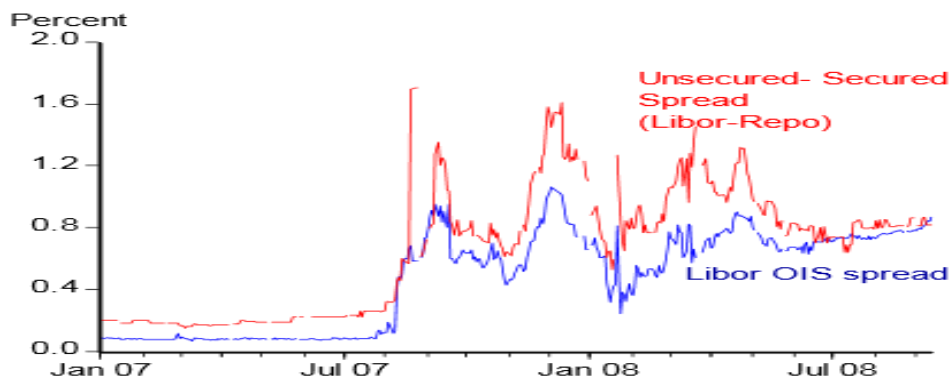
#### **Haircuts for Repos during March 2008**

<i>Security</i>	<i>Typical haircuts</i>	<i>March 2008 haircuts</i>
Treasuries	< 0.5%	0.25% ~ 3%
Corporate bonds	5%	10%
AAA asset-backed securities	3%	15%
AAA residential mortgage-backed securities	2%	20%
AAA jumbo prime mortgages	5%	30%

*Source:* Bloomberg.

Haircuts for repos during March 2008 (Source: Shin, 2009)

Further to analysis, in order to empirically assess the issue affecting the money markets, subtracting the interest rate on repos from LIBOR can be used as a good measure of risk. The results are illustrated in the figure below which shows the high correlation between the unsecured-secured (Libor-repo) spread and the Libor-OIS spread (Libor-OIS is the difference between LIBOR and the overnight indexed swap (OIS) rates). These results show that the market turmoil in the interbank market was not a liquidity problem of the kind that could be alleviated simply by central bank liquidity tools. Rather, it was inherently a counterparty risk issue (risk of the other side renegeing), which linked back to the underlying cause of the financial crisis (Taylor, 2009).



High correlation between the Libor-repo and Libor OIS spreads (Source: Taylor, 2009)

### How the Phenomenon Affected the Money Markets?

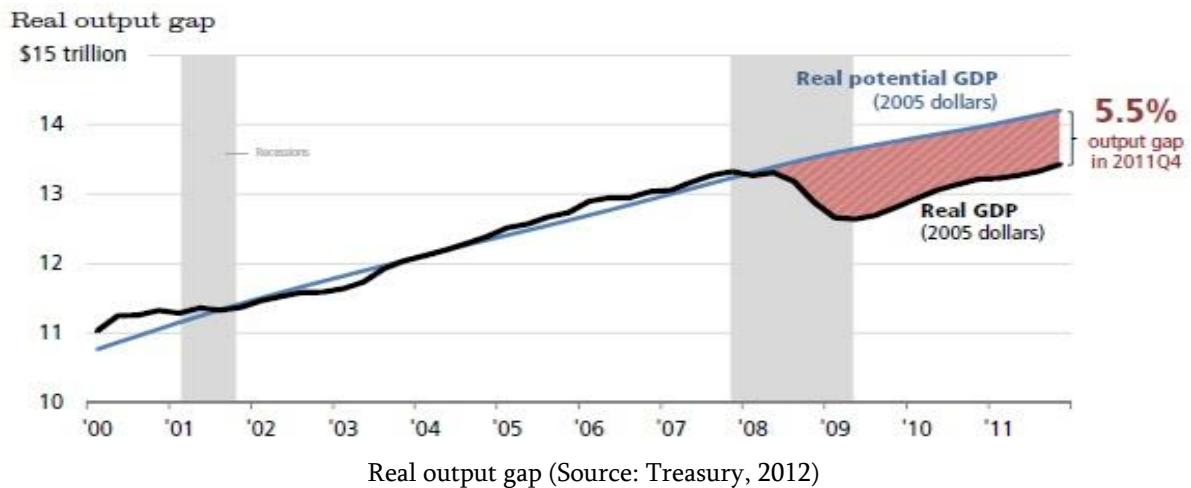
The crisis was more severe than many were willing to accept and the effect on the global economy was the equivalent of the collapse of the banking system during the Great Depression. After the bankruptcy of Lehman Brothers on Monday, September 15, 2008, the consequences were disastrous; ‘Credit Default Swap’ or CDS went through the roof, and American International Group (AIG), an American multinational insurance corporation that carried a large short position in CDSs, was facing imminent default. Rescue actions were taken by the Treasury Secretary Henry Paulson, albeit on extremely punitive terms. (Soros, 2009)

Furthermore, Lehman was previously the fourth-largest investment bank in the USA and was one of the main market-makers and a major issuer in commercial paper. The day after Lehman Brothers went bust there was a run on money market funds in full swing, bringing with it instability in the economy. In addition, it caused a panic between depositors according to The Economist (2012):

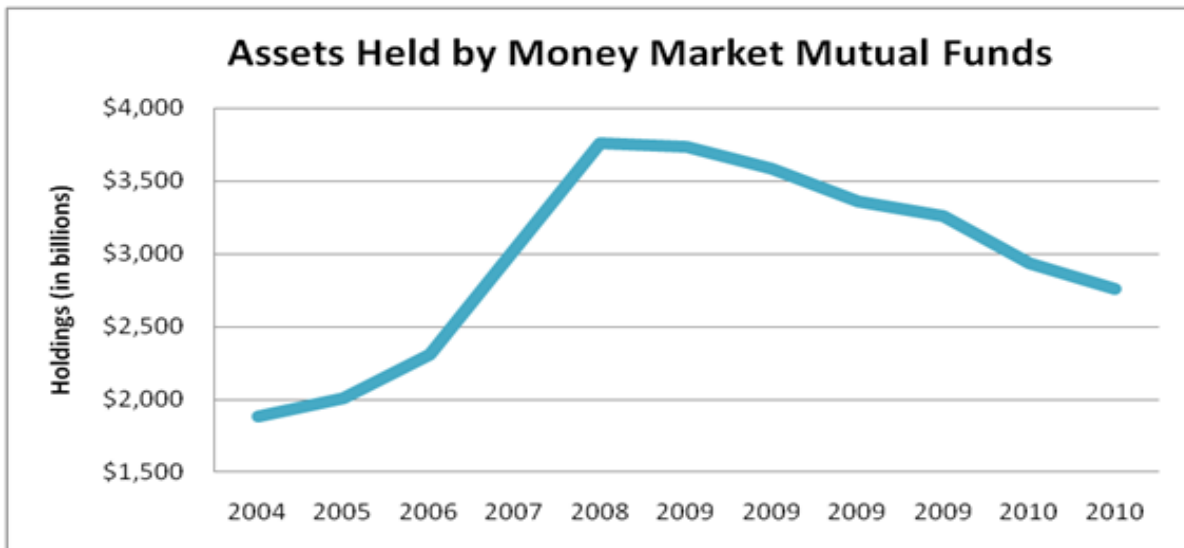
America’s oldest money-market mutual fund declared that investors could no longer redeem shares at the customary \$1 each. In “breaking the buck”, Reserve Primary Fund became the most prominent part of a broader panic that saw investors pull billions from other money-market funds, a major source of short-term lending to banks and companies (Economist, 2012, p. 1).

The next graph shows the actual real GDP (gross domestic product) and estimated real potential GDP in trillions of dollars. By analysing this, it can be assumed that the average annual growth rate starting in 2000 grew steadily without any significant shocks in the

market. It would be reasonable to assume therefore, that if the economy had not experienced the financial crisis in 2007, the real GDP trend would have grown alongside the real potential GDP trend. Thus, the output gap between them was 5.5% in 2011 Q4, meaning that the negative output gap caused higher unemployment, lower growth and a fall in output.



Eventually, the credit crisis rocked the money market mutual fund industry itself. In September 2008, one of the nation’s largest money market funds, the Reserve Primary Fund, could no longer meet redemptions at a regular level due to the losses it incurred in \$800 million worth of Lehman Brothers’ commercial paper and floating rate notes. The effects of the financial crisis were strongly felt and even prompted a mass exodus of withdrawals from money market funds that only halted once the Treasury Department established a \$50 billion money market guaranteed fund. Although the panic caused by the initial “run” was halted by the guarantee, total assets held by money market mutual funds have fallen by approximately \$1 trillion since the end of 2008. This represents more than a 25% steep decline from the peak holdings of \$3.8 trillion. (Papagianis, 2010)



Assets Held by Money Market Mutual Funds (Source: Papagianis, 2010)

## Conclusion

In this paper I have demonstrated the impact of repurchase agreements on the problems affecting the money market in 2007-08. After analysis, I can confidently conclude that all of the difficulties can be described as “a run on repo”. Uncertainty in the repurchase agreements led to an increase in the repo haircuts, which was equivalent to massive withdrawals from the banking system. Nevertheless, I support the statement of this article, because repo’s undoubtedly deepened the financial crisis and were actually one of its causes. In the cases of Lehman, AIG and other authorities, repurchase agreements played a major role in creating systemic risk, which caused failure of our financial system. All of the above mentioned difficulties could have been avoided if authorities would have been more prudent. However, we can hope to overcome such in the future because economists and the governments are taking it seriously, providing liquidity support and recapitalisation of distressed banks, further strengthening interbank lending guarantees.

I would like to emphasize that only time will show whether we are sufficiently aware and informed after the recent problems affecting the money market. On the other hand, it is always useful to have a careful look back in order to understand and familiarise ourselves with what can be learnt and better performed in the future. The main concept is that creating a new financial mechanism is vital in order to prevent any possible failure in the future.

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## **Merits and Shortcomings of the Black-Scholes-Merton (BSM) Approach: An analysis of the role of volatility**

Eleonora Cambone

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### ABSTRACT

The historical background of option pricing dates back to 1900; before the Black-Scholes-Merton approach (BSM) was finalised, Louis Bachelier introduced the method of modelling option prices that was later extended by Sharpe and Lintner up until 1965 (Merton, 1973). With these foundations at hand, Black, Scholes and Merton finalised the model in 1973.

They constructed a model to determine the equilibrium value of an option by knowing the current price of the stock, the option striking price, the short-term interest rate (risk free), time to expiration (maturity), and the volatility of the return on the stock (Black and Scholes, 1971). The aim of this paper is to assess its economic and empirical validity as opposed to its shortcomings and limitations.

The paper is structured as follows. The first section describes the main assumptions of the BSM model. The second section provides an overview of the main merits and weaknesses of the approach, followed by a description of the contingent applications of the BSM in the next section. The final section is aimed at reminding the reader of the main points of the paper and provides constructive conclusions.

### **Assumptions of the BSM Approach**

Before proceeding with the description of the fundamental assumptions of the BSM model on option pricing, it is necessary to define what an option actually is. As Black and Scholes (1973) assert, an option is a financial contract that gives an investor the right to buy or sell an asset within a specified time window and under determined conditions. There are two main kinds of options: the European option and the American option; the former differs from the latter as it gives the owner the right to sell the shares at a pre-arranged price, the exercise price (or strike price), at the pre-arranged date: the expiration date. On the other hand, the American option can be exercised at any date before maturity (Merton, 1977). Furthermore, option types can be divided according to flexibility in terms of execution: the owner of a call or a put option – namely options that can be bought or sold on or before a specific date - has

the right to exercise it for a price said to be the option premium. Both of these two options can be either naked – when the owner does not own the underlying stock - or covered (Fortune, 1996). Nevertheless, the emphasis of the BSM is put on the European-style options.

The assumptions that make the BSM valid are presented below, amongst the standard assumptions (Bailey, 2005; Merton, 1998; Black and Scholes, 1971) for general option pricing models:

1. Markets are frictionless; there are no transaction costs in buying or selling an underlying asset, no penalties are imposed for short selling and no institutional restrictions are enforced on trading.
2. It is possible to lend and borrow in unlimited amounts, if a constant and risk-free interest rate is guaranteed. The assets are perfectly divisible, so that each part can be sold or lent independently.
3. The asset pays no dividends or other distributions during the life of the option, which is protected against possible stock splits. Additionally, the options considered are only the European type, meaning they can only be exercised at the pre-arranged maturity date.
4. There are no riskless arbitrage opportunities: this can be viewed more like an implication from the other assumptions rather than an assumption itself.
5. Investors' preferences are assumed to be such that they would prefer to hold more rather than less.
6. Logarithmic returns of an underlying stock are normally distributed, and follow a continuous random walk according to a Brownian motion<sup>1</sup>. Moreover, markets are continuously open so that trading can happen anytime.

With the last assumption, Black, Scholes and Merton made a significant contribution to the standard assumptions already existing in financial models such as the ones described by Sharpe (1964) and Lintner (1965) for the Capital Asset Pricing Model. The set of assumptions helps give credibility to the predictions. Bearing in mind the above-mentioned theorizations, it is now possible to outlay the formulae for the option premium (Hull, 2011) regarding European call (1) and put options (2).

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<sup>1</sup> Returns follow a random path

$$c = S_0 N(d_1) - Ke^{-rT} N(d_2) \quad (1)$$

$$p = Ke^{-rT} N(-d_2) - S_0 N(-d_1) \quad (2)$$

where

$$d_1 = \frac{\ln(S_0/K) + (r + \sigma^2/2)T}{\sigma\sqrt{T}} \quad (3)$$

$$d_2 = \frac{\ln(S_0/K) + (r + \sigma^2/2)T}{\sigma\sqrt{T}} = d_1 - \sigma\sqrt{T} \quad (4)$$

In particular,  $c$  and  $p$  are the European call and put option respectively;  $S_0$  represents the initial stock price at time  $t=0$  while  $K$  equals the strike price.  $R$  is the risk free rate, which is continuously compounded;  $T$  is the exercise or maturity date, and  $\sigma$  is the volatility of the stock price.  $N(x)$  represents the cumulative probability distribution function for a  $N(0,1)$  distribution; thus the probability that a variable that has a standard normal distribution<sup>2</sup> will be less than  $x$ .

The empirical estimation given by Black and Scholes (1971) aimed at determining the equilibrium value of an option shows ambiguous results; the difficulty in estimating the variance caused the model to predict over-priced options on high variance stocks, and under-priced options on low variance stocks. The study also sheds light on the presence of non-constant variance, and the difficulty in completely ruling out the transaction costs that seem to be quite high. As can be seen from (1) and (2), the only variable that is impossible to observe before the option price is computed is the (explicit) volatility  $\sigma$ . Moreover, it is clear that the price of a call or put option does not depend on the expected rate of return, suggesting that even if investors do not agree on the return of some asset, the model will still hold. It is also independent of investors' beliefs and preferences, but all investors must agree on the value of the volatility for the model to be true.

### Merits and Critiques of the Model

Although the model was constructed to be true only for the European-style options, Merton (1973) describes how if there are no dividend payments during the time up to the maturity date of an option - and hence there is no profit in exercising the option before its exercise date - then the BSM model applies also to American call options, that do not pay a dividend prior to the expiration date. In his paper, Merton underlines the versatility of the model and also expands on the arbitrage principle and dynamic hedging.

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<sup>2</sup> with a mean of zero and a standard deviation of one

In particular, he explains how it is possible to minimise or totally eliminate the risk associated when an option is issued by constructing a replicating portfolio. Specifically, the financial intermediary creates a hedging portfolio made of risky and risk-free assets; if the payoffs of an option are exactly replicated by the portfolio, this is called a “replicating portfolio” (Merton, 1998, p. 329). When this happens, the replicating portfolio only consists of the underlying asset, which the call option was sold on.

Nevertheless, the dynamic hedging strategies are only possible theoretically; but when the hedging portfolio is well diversified, the risk involved purely concerns market risk - that cannot be hedged. This means the elimination of non-systematic risk, and only the market risk affects the return of the hedging portfolio. The adaptability of the model makes it possible for it to still be employed today to compute prices of put and call options; its simplicity is a crucial element that determined its success, alongside the fact that it provides a benchmark to assess competing models. It can also be used to price various elements of a firm capital's structure; in other words, the total value of the firm can be employed as an individual security thus replacing the concept of option under which the whole model is based (Merton, 1973).

However, the BSM approach has been shown to have several limitations too. Recalling the Merton (1973) development of the dynamic hedging portfolio, making use of this strategy cannot always be possible due to discontinuous trading and transaction costs that violate assumption (1); additionally dynamic hedging could imply risk and is associated with costs, hence the risk-free implication does not hold.

Another of the assumptions can be subject to criticism; the perfect divisibility of assets (assumption 2, which allows for the assets to be split and sold or lent separately) is violated as often, financial intermediaries construct a bundle of option contracts to be traded. Moreover, assumption (6) can be argued: markets cannot allow continuous trading as there will always be execution lags – although these lags have been considerably reduced by the advent of new technologies that allow trading to happen within nanoseconds. Additionally, the formulae to get the price of a call and put option also lack an important element: Garleanu et al. (2009) show how the price of the option is determined not only by the factors shown in the BSM model, but also by its demand.

Fortune (1996) empirically confutes parts of the model assumptions, specifically the one regarding the normal logarithmic distribution of the underlying stock price, by observing that the relative frequency distribution is not normally distributed, is very leptokurtic

(distribution whose points form a higher peak than in the normal distribution), and shows skewness.

Nonetheless, amongst the shortcomings of the model, particular importance must be given to the role of volatility. Although Black and Scholes (1973) were well aware of the difficulties that could be encountered when trying to estimate volatility, a wrong calculation could lead to completely wrong predictions of the option price. In order to give a well-rounded analysis it is necessary to first make a distinction between explicit (realised) and implicit (or implied) volatility. As Bailey (2005) states, the former is calculated as the standard deviation of previous data on asset price, with the following formula:

$$\sigma^2 = \frac{(g_1 - \bar{g})^2 + (g_2 - \bar{g})^2 + (g_3 - \bar{g})^2 + \dots + (g_N - \bar{g})^2}{N-1}$$

Where  $\bar{g}$  is the sample average,  $g_1, 2, 3$  etc. are the rates of return for each date. It is assumed that the volatility remains constant within time and does not depend on investor sentiment, although there is no consensus about how it should be modelled if it were non-constant.

Interestingly, implicit volatility is the market's assessment of the underlying asset's volatility – the market's estimate of the constant volatility parameter (Mayhew, 1995) - and the value that satisfies the BSM formulae. In order to calculate it, one would simply substitute the price of the option into the formula and use the volatility as the unknown to be found. One useful trait of implicit volatility is that it can be defined as forward looking, meaning that it is founded on the future expectations of the investors. Moreover, implicit volatility can be computed for different option contracts within the same underlying asset: when they are not equal, there is evidence of non-constant volatility and the BSM formulae do not hold (Bailey, 2005). In fact, implied volatility can graphically assume different shapes; as Mayhew (1995) underlines, across the strike price value they take the form of “smiles” or “skews”. Considering the defects of volatility, model-free estimates of the implicit volatility have been implemented; one of the most significant is the Chicago Board Options Exchange VIX index. Looking at the historical background, in 1993 the CBOE<sup>3</sup> introduced the VIX index that was originally constructed to measure the market's expectations on the S&P100's (Standard and Poor's) 30-day implicit volatility and consequently, became the benchmark for the U.S. volatility. It is founded on the assumption of arbitrage absence and lack of discrete jumps. A derivation of the formula goes beyond the scope of this paper, but it takes the following form:

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<sup>3</sup> The CBOE Volatility Index – VIX, 2014

$$\sigma^2 = \frac{2}{T} \sum_i \frac{\Delta K_i}{K_i^2} e^{RT} Q(K_i) - \frac{1}{T} \left[ \frac{F}{K_0} - 1 \right]^2$$

Where:

$\sigma^2 = (VIX/100)$ ;  $T$  is the time to expiration;  $F$  is the forward index level desired;  $K_0$  equals the first strike below  $F$ ;  $K_i$  is the strike price of the  $i$ th out of the money option;  $\Delta K_i$  represents the interval between strike prices;  $R$  equals the risk-free interest rate;  $Q(K_i)$  is the “midpoint” of the bid-ask spread for each option with strike  $K_i$ . The VIX index can be considered as a market forecast of variability, because it reflects the beliefs and option preferences of the investors.

It can also be employed for other scopes: it constructs the underlying asset for options traded in the CBOE; it prices variance swaps – a type of forward contract; it estimates variance risk premia.

With these concepts about volatility in mind, Bollerslev and Zhou (2007) construct a different model to account for time changing volatility to explain price variation; they focus on the difference between implied and realised variances finding more accurate predictions than the ones of the BSM model, suggesting that the approach can be further implemented.

### Alternative Applications

Although the Black-Scholes-Merton model was initially developed to fit the analysis of option prices, it can also be applied to other contingent claims and extended to the analysis of other types of derivatives. In particular, the analysis can be applied to any security whose payoff is dependent on the returns of another asset (Bailey, 2005).

Merton (1977, 1998) proceeds on extending the analysis and applies the BSM model in special cases, for example to loan guarantees and deposit insurance. Specifically, he claims that a contract that insures against the losses caused by the default of an underlying asset is equivalent to a put option whose exercise price is equal to the default-free contract value. Thus, a purchase of a debt instrument that involves possible defaults can be seen as an issue of a loan guarantee to insure the buyer against losses. Similarly, deposit insurance guarantees the depositor a refund (full or partial) in case of a bank run. Merton applies the analysis to the U.S. financial system and government guarantees; the contrast with the put option is made clear if we consider the deposit as an act of protection from the buyer against default, and the loan guarantee as a condition in which the bank holds the deposit and will only exercise if the borrower does not make the pre-arranged payments.

Additionally, Merton (1977) extends the analysis to non-financial instruments: the so-called “real-options”. These options regard real estate investments or development decisions, or, in general, every instrument that involves future uncertainty.

The BSM model can also be applied to revolving credit agreements, for which a company is obliged to give funds to another company in case this is in need of credit. The price of this decision is studied by Hawkins (1982) and depends on various elements such as the cost a bank might impose for borrowing (that could be less or more than the one imposed by the company lending the funds), and the rate at which funds are lent. Finally, Lauterbach and Schultz (1990) make use of the BSM (adjusted for dilution) to analyse price warrants rather than options, although their findings might suggest that the model performs rather poorly in this case.

## **Conclusion**

The power of the Black-Scholes-Merton approach comes from the fact that it is a simple and straightforward way to calculate option prices, by using both explicit and implicit information in the formulae described earlier in the paper. Its versatility makes it possible for it to be applied to other contingent claims that are not strictly put and call options, as Merton (1977), Hawkins (1982) and Lauterbach and Schultz (1990) describe. For these reasons, the model is still widely used in the financial world today.

Nevertheless, the assumptions of the model often prove to be unrealistic; the fact that the volatility is not observable and the violations of other assumptions, for example the ones concerning continuous trading or perfect divisibility of an asset, prevent the model from being an accurate prediction of an option’s price. Thus, although the model is extremely effective in some aspects, it shall not be viewed as a flawless way of evaluating options’ and other security-like instruments’ prices; caution should be exercised when making empirical use of the approach.

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# Global Health in the 21<sup>st</sup> Century: The Need for a Strategic Funding Plan

Adeleke Fowokan

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## ABSTRACT

Global health has been frequently described in literature as a “fashionable” and “hot” topic; the rise in the amount of philanthropic donors, international organizations, Non-Governmental Organizations (NGO’s) and countries which identify it as a top priority clearly explain this trend. This has resulted in the proliferation of global health programs and initiatives aimed at addressing the endemic health challenges faced in low and middle income countries. This in turn has resulted in the rise of several fragmented interventions programs that do not contribute to the overall capacity building of the health systems in these countries. Sadly, this represents a wasted opportunity, as these funds could be channeled into the sustained, long term capacity development of these health systems. To address the unique challenges faced globally, more needs to be done by both donors and the government of the countries to ensure that the funds are appropriately utilised and I shall discuss a course of action throughout this paper. This ensures that countries are appropriately empowered to address the dynamic and evolving health threats faced, and that the World Health Organization (WHO) ‘health for all’ call is attained.

## Introduction

The World Health Organization (WHO) Alma Ata conference held in 1978 was the basis on which the primary health care movement was established. At this conference, representatives from countries across the globe adopted the “health for all” movement, with the sole aim of improving health care coverage around the world, especially in deprived settings (Rasanathan et al., 2009; Basilico et al., 2013). Thirty eight years have passed since the Alma Ata conference, and despite huge change in global health actors that has seen an unprecedented rise in aid funds to low income countries (Weigel et al., 2013), most of the countries involved still fall short of achieving the “health for all” mark. Whilst some of these countries have experienced improvement in health, most face a battle with the same endemic diseases that billions have been channelled towards

eradicating. The acceleration of globalization activities, spurred on by increased technology and economic interdependence, has created easy movement of goods, services and people globally (Ollila, 2005). However, the threat posed by pathogens and infectious diseases saliently emphasizes how the inadequacies experienced by health systems in some countries could further exacerbate the risks posed due to the aforementioned developments (Ollila, 2005).

In this paper, I will argue that despite the influx of huge aid donations to health, the lack of quality and functional health systems in low/ middle income countries (LMICs) remains one of the biggest global health challenges. Firstly, I shall explain the challenges within these countries and globally due to the inadequate health systems, and then suggest a strategy to mitigate them.

### **Aid and Health Systems in LMICs**

To put this situation into context, I will start by providing some background information. In 1978, representatives from different countries gathered at Alma Ata for a conference that adopted the call for a health system that was community based, encompassing a broad range of features to address the varied health challenges faced by individual countries (Rasanathan et al., 2009; Basilico et al., 2013). This vision was termed “primary health care”, and its emphasis was upon universal health coverage for all by the year 2000 (Basilico et al., 2013). However, the lack of clear implementation goals and the rise of neoliberalism in the 1980s saw this vision fall through (Basilico et al., 2013). The onset of neoliberalism was marked by depleted funding to health care systems in some LMICs to correspond with structural adjustment loans by the World Bank and the International Monetary Fund (IMF) (Basilico et al., 2013). This resulted in even weaker and debilitating health systems in these LMICs.

In the past twenty years, health aid to LMICs has increased precipitously; from the years 1990 to 2007, aid assistance to LMICs rose from 5.59 to 21.79 billion dollars (Weigel et al., 2013). This rise in aid donation to health was incited by the emergence of new global health actors such as the Gates foundation, multilateral agencies like the Presidents Emergency Fund for AIDS Relief (PEPFAR), Global Alliance for Vaccines and Immunizations (GAVI), the Global Fund, and bilateral aid from OECD countries (Doyle and Patel, 2008; Sridhar and Batniji, 2008). Despite the unprecedented rise in aid funding to LMICs, health care in these countries still falls below the global standards, poor nutrition and sanitation remain, and the huge health divide between countries is still evident (Weigel et al., 2013).

The rise in funding from aid donors has seen several high profiled endemic diseases facing LMICs (HIV, tuberculosis, malaria, child and maternal health) become prioritized (Ollila, 2005). It is important to note that most of these funds are channelled into specific NGOs working within these countries and do not go into health systems (Sridhar and Batniji, 2008). This has largely resulted in various uncoordinated disease specific efforts by these NGOs and has not brought about structural changes to the health systems of these LMICs (Pfeiffer, 2003; Ollila, 2005). In addition, Marchal et al. (2009) found that although most global actors claimed to support health systems in the countries in which they operated, their funds were directed towards vertical (disease specific) programs that did not positively impact upon health systems. Furthermore, some studies have argued that the increased funding might have brought about an erosion of these health systems rather than strengthening them (Pfeiffer, 2003; Swanson et al., 2009). This results in even weaker systems that are unable to meet the needs of their population (Marchal et al., 2009).

The lack of quality health care in these countries poses a grave challenge to global public health. Firstly, these health systems are not able to address the growing health needs of their population and the gap in access is left to NGOs to tackle. However, the selective prioritization of NGOs means that they cannot always address the health needs of the people (Ollila 2005). In addition, the growing double burden of diseases experienced by LMICs, in which communicable diseases still impact on health systems and non-communicable diseases exert enormous burden, drastically compounds the burden to these already compromised health systems (Ollila, 2005). This may further widen the health disparities between rich and poor countries, and increase the level of poverty in the LMICs (Marchal et al., 2009). This adequately emphasizes the need for quality health systems that uphold the ideals of Alma Ata, by adapting to local context in order to address its unique health demands (Basilico et al., 2013).

The inability of health systems in LMICs to address its health demands not only affects those individual countries, but could possibly create a ripple effect globally. The increased ease of movement globally, especially within the last few decades, poses the peril of endemic communicable disease being spread with relative ease. The rise of new infectious diseases and the possible mutations of the old endemic pathogens require systems strong enough to combat the source, thus preventing the possible global spread of such pathogens (Khan and Lurie, 2014). Pathogens that cause infectious diseases do not respect borders, and the free and easy movement of people brought about by an increased global interconnectedness underscores the need for vibrant health systems, strong enough to

address the unique health challenges posed by infectious diseases (Ollila, 2005; Khan and Lurie, 2014). The 2009 H1N1 pandemic and the recent Ebola crisis, which began in Guinea before spreading to other countries within the region with sporadic cases arising across the globe, highlight the global threat posed by the health system's inability to meet the health demands of its people.

One of the major cross cutting challenges facing global health today is meeting the potential health demands and threats posed by a myriad of health conditions; although there are other existing health challenges, most of the problems emanate from how and what is needed in order to address the threats faced by health systems in LMICs that are incapable of meeting their health demands. Most global health actors support the idea of strengthening health systems as a sustainable, long term approach to addressing this threat (Pfeiffer, 2003; Marchal et al., 2009). However, most of the health systems in LMICs are weak and underfunded, and the huge aid funds sent to these countries are channelled into fragmented intervention programs (Ollila, 2005; Marchal et al., 2009). Thus, the inability of health systems in LMICs to combat the health needs of the people remains the fundamental backbone to the global health challenge, with further challenges stemming from the need to address this core issue. As such, I consider the lack of quality health systems that meet the demands of the people in LMICs to be one of the biggest challenges to global health.

### **Strategies to Combat the Challenge**

There are several possible strategies that would address this challenge, but my approach would be centred upon an evidence based strategy that has been tested in limited settings with positive results. There has been a renewed emphasis on the Alma Ata vision, spearheaded by the director general of WHO, Dr Margaret Chan. However, while the health for all vision may have been a brilliant idea, it lacked a precise funding and implementation plan (Basilico et al., 2013). My strategy would adopt the community based ideology of Alma Ata and fuse it with the accompaniment model, which builds upon the shortcomings of the Alma Ata idea by indicating an implementation plan (Weigel et al., 2013). It ensures that the huge splurge in aid finances sent to these countries is not used to pay for fragmented and unsustainable health services, but instead goes to help build the health systems in these countries, whilst ensuring that the health systems adapt to community needs.

The premise of this fused approach is to patiently support the capacity development of health systems in LMICs through aid funds, until they can deliver quality health care

services independently (Weigel et al., 2013). It consists of a stepwise strategy that firstly ensures that the services provided are representative of the needs of the people, and does not just selectively prioritize high profiled diseases. This ensures that the intervention would be community based, conforming to the ideals of Alma Ata. Secondly, global health funders would have to ensure that NGOs are funded on the criteria that the funds would be used to help build and strengthen health systems and create jobs by working with National governments. This approach was adopted by the Red Cross in Haiti after the earthquake in 2010 to help the hospital with a salary support system (Weigel et al., 2013). This was no easy feat as it involved infrastructural changes to the system in order to upkeep transparency; however, the Red Cross were patient enough to follow this process through. Other examples of this approach adapted within different settings have produced favourable results. Finally, governments within these countries would be required to detail the activities of NGOs in their countries, irrespective of who is funding the program (Swanson et al., 2009). This would ensure accountability by NGOs through adequate monitoring and evaluation on the part of the countries.

The approach detailed here is not a blueprint of an ideal strategy; it simply merges two pragmatic approaches in order to adjust for the inadequacies in both. Adopting this model would by no means solve the challenge instantaneously, however, it would ensure that health systems in LMICs could better adapt and would create long term sustainable solutions to address their plethora of health needs.

## **Conclusion**

In the past two decades, global health has evolved into a target for philanthropic donors, yet the old challenges still persist. Access to sound and practical health care remains a problem in many LMICs. This poses novel threats to global health as the global networks enforced through globalization highlight the risk posed by inadequate health systems. There is an urgent need to develop the health capacity of these countries in order to sustainably combat major health threats. Such developments would ensure that health access is equitable and fair, that global health security is strengthened, and that lives would be improved.

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## The Promotion of Exclusive Breastfeeding in Preterm Infants using Cup Feeding: a literature review

Dauda Gayus Hamman

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### ABSTRACT

Exclusive breastfeeding of newborns during the first six months of life has been widely recommended by the World Health Organisation and United Nations Children's Fund as a global life-saving infant and young child feeding practice. This paper evaluates the effectiveness of cup feeding in promoting exclusive breastfeeding in preterm infants compared to bottle feeding. A literature review of ten studies (mainly systematic reviews of randomised control trials) primarily located using the EBSCOhost database was carried out. The main findings of the review suggest that cup feeding when compared to bottle feeding leads to reduced negative sucking behaviours, long hospital stays, and inability to maintain exclusive breastfeeding (EBF) after discharge from hospital.

### Introduction

The exceptional nutritional, immunological, and psychological benefits of breastfeeding have led to its continual promotion by the World Health Organisation (WHO) and United Nations Children's Fund (UNICEF) as the safest, most natural and effective means of feeding infants and young children (WHO and UNICEF, 1989; Nascimento and Issler, 2003; WHO and UNICEF, 2003; Health Canada, 2012). It is recommended that in exclusive breastfeeding (EBF), newborns should be fed with only breast milk during the first 6 months of life, after which other liquids and solids can be added gradually to complement breastfeeding up to 2 years or longer to achieve optimal and healthy infant growth and development (WHO and UNICEF, 1989; WHO, 2002; WHO and UNICEF, 2003; Kramer and Kakuma, 2007; UNICEF, 2011; WHO, 2011). However, mothers who choose to breastfeed their preterm infants (i.e. babies born before 37 weeks gestation) experience difficulty in initiating EBF, because preterm infants (PIs) are usually weak and unable to fully breastfeed (Nascimento and Issler, 2004; WHO and UNICEF, 2009). In such situations, alternatives to breastfeeding known as supplemental feeding methods such as bottle feeding (BF) and cup feeding (CF) are adopted in the Newborn Intensive Care Unit (NICU) of hospitals to support the establishment of successful EBF in PIs (WHO, 1998; WHO, 2003; Nascimento and Issler, 2004).

BF, being the most commonly used supplemental feeding method, has been suggested by previous studies to be ineffective in promoting EBF (Nascimento and Issler, 2004; Collins et al., 2008). Kramer and Kakuma (2007) argue that BF potentially increases the risks for infection and confusion between breast and bottle in infants (a phenomenon known as “nipple confusion”); this may interfere with successful initiation and completion of EBF. Consequently, CF has been widely recommended as a suitable alternative to BF by the WHO/UNICEF through the Baby-Friendly Hospital Initiative (BFHI) (WHO and UNICEF, 1989; WHO, 1998; Vannuchi et al., 2004; WHO, 2009). Despite these recommendations, deficiencies still exist in the adequate implementation of the BFHI at the NICU level of hospitals in many countries (Agampodi, 2007; WHO, 2009; Health Canada, 2012).

Moreover, only a few studies have actually compared the effect of both CF and BF on initiation and duration of successful EBF in PIs (Collins et al., 2004; Kramer and Kakuma, 2007; Abouelfetoh et al., 2008; Flint et al., 2008; Huang et al., 2009; Al-Sahab et al., 2010). It is essential that priority should be given to the PI population, especially since existing evidence demonstrates that, when compared to term infants, PIs are considered most-at-risk of not achieving successful EBF (WHO, 2002; Nascimento and Issler, 2003; WHO and UNICEF, 2009; WHO, 2011; Health Canada, 2012).

Therefore, the aim of this review is “to evaluate the effectiveness of CF in promoting EBF in PIs compared to BF”.

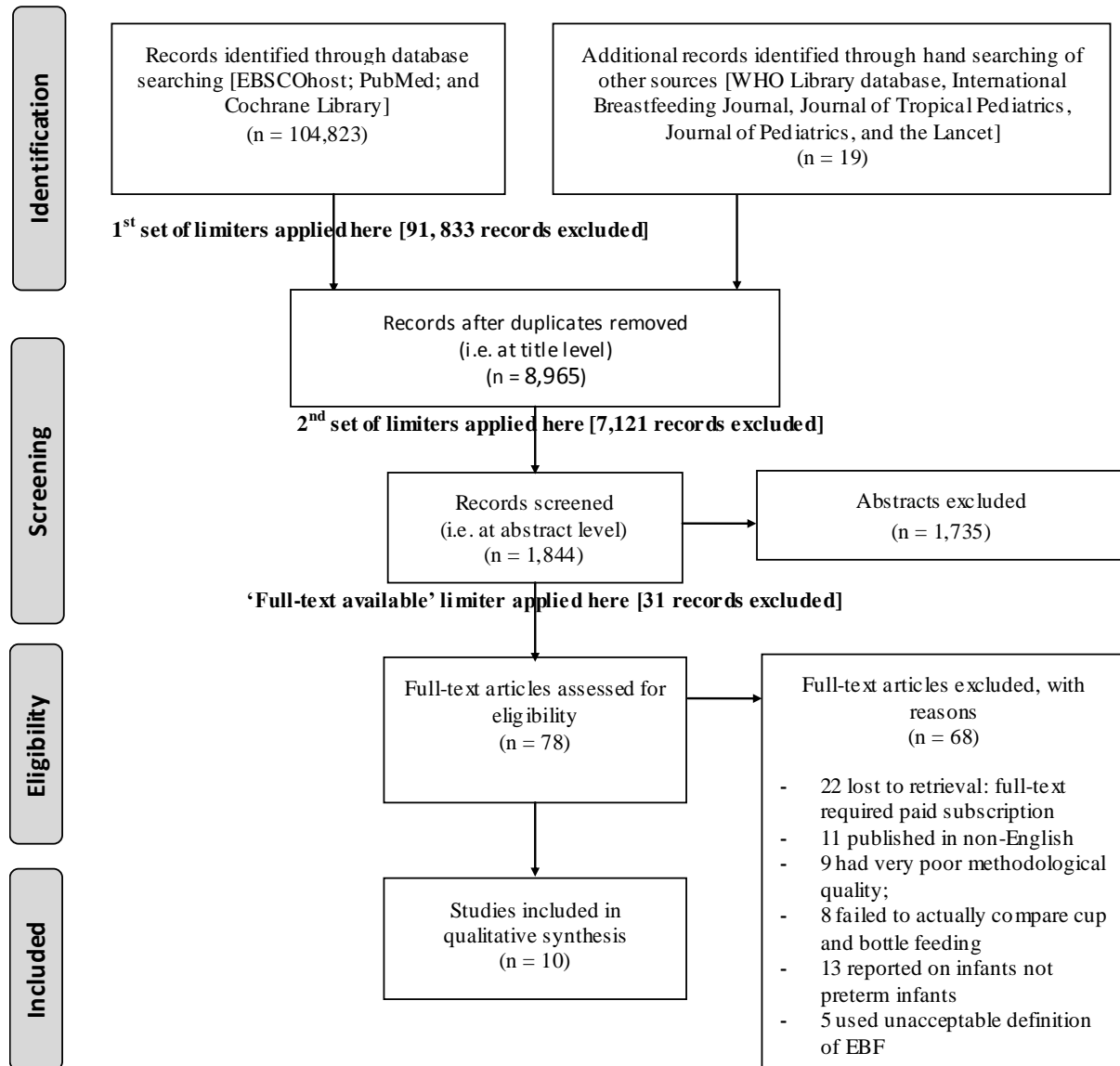
Table 1 presents the list of acronyms used in this paper and their expansions/meanings.

**Table 1- List of Acronyms**

<b>Acronym</b>	<b>Expansion/Meaning</b>
$\alpha$	statistical power level/value
%	Percentage
BFHI	Baby-Friendly Hospital Initiative
BF	Bottle Feeding
CF	Cup Feeding
CI	Confidence Interval
EBF	Exclusive Breastfeeding
p	statistical significance level/value
PCS	Prospective Cohort Study
PI	Preterm Infant
PIBBS	Premature Infant Breastfeeding Behaviour Scale
n	number
NICU	Newborn Intensive Care Unit
NNT	Number Needed to Treat
RCT	Randomised Controlled Trial
RR	Risk Ratio
t	test of difference value
UNICEF	United Nations Children’s Fund
WHO	World Health Organisation

## Results

A total of 104,823 records from electronic database search and 19 additional records from other sources were identified. However, only 10 studies met the eligibility criteria and were included in qualitative synthesis (see Figure 1).



### Where:-

- 1<sup>st</sup> set of limiters include: Human, Published Date from January 2002 to December 2012, and Peer reviewed.
- 2<sup>nd</sup> set of limiters include: Systematic Reviews, Randomized Controlled Trials, Clinical Trials, and Reviews.

Figure 1- Flow of Information through the Different Phases of the Literature Search Process  
(Adapted from: Moher et al., 2009)

Table 2 presents a summary of the study design, characteristics of sample, and setting for each of the included studies.

**Table 2- Main Characteristics of Included Studies**

<b>Study</b>	<b>Main Characteristics</b>
Abouelfetoh <i>et al</i> (2008)	Quasi-experimental study involving 60 preterm infants with 35.13 weeks mean gestational age recruited from a Paediatric Hospital in Cairo, Egypt.
Al-Sahab <i>et al</i> (2010)	Cross sectional study involving 87 nurses from 5 Hospitals in Toronto, Canada.
Collins <i>et al</i> (2004)	Randomised control trial (RCT) involving 319 preterm infants (between 23-33 weeks of gestation) recruited from 2 large Tertiary Hospitals in Australia.
Collins <i>et al</i> (2008)	Systemic review of 5 RCTs involving 543 preterm infants (between 23-36 weeks of gestation) recruited from General District Hospitals in UK (2), Brazil (2), and Australia (1).
Flint <i>et al</i> (2008)	Systemic review of 4 RCTs involving 472 preterm infants (between 28-35 weeks of gestation) recruited from Tertiary Hospitals in Brazil (1), UK (2), and Australia (1).
Huang <i>et al</i> (2009)	Prospective cohort study (PCS) involving 205 preterm infants (between 32-36 weeks of gestation) recruited from Tertiary Medical Centre in Taiwan.
Kramer and Kakuma (2007)	Systematic review of 16 studies (2 RCTs and 14 PCS) of 9,465 infants (2,050 preterm, 7,415 term and post term infants) recruited from 7 developing and 9 developed countries.
Nascimento and Issler (2003)	Systemic review of 3 PCS involving 493 preterm infants (between 25-31 weeks of gestation) recruited from Tertiary Hospitals in Brazil.
Nascimento and Issler (2004)	Systemic review of 3 RCTs involving 307 preterm infants (between 24-33 weeks of gestation) recruited from General District Hospitals in Brazil (2), and Peru (1).
Vannuchi <i>et al</i> (2004)	Systemic review of 2 RCTs involving 426 preterm infants (between 26-36 weeks of gestation) recruited from General District Hospitals in Brazil.

The results of the included studies were considered under 4 themes: breastfeeding behaviours, baseline breastfeeding rates at hospital discharge, prevalence of breastfeeding after hospital discharge, and length of hospital stay; as follows:

### **Breastfeeding Behaviours**

Breastfeeding behaviours of PIs were reported in 7 studies (Nascimento and Issler, 2003; Vannuchi *et al.*, 2004; Kramer and Kakuma, 2007; Abouelfetoh *et al.*, 2008; Collins *et al.*,

2008; Huang et al., 2009; Al-Sahab et al., 2010; Abouelfetoh et al., 2008) in a quasi-experimental study involving 60 PIs (30 randomly allocated to both CF and BF groups), observing the Premature Infant Breastfeeding Behaviour Scale (PIBBS) mean scores in both groups at 6 time intervals, starting at week 1 to week 6 after hospital discharge. PIs in CF group had consistently higher PIBBS mean scores (9.8, 8.9, 12.3, 13.5, 14.2, and 14.6) than those in BF group (5.3, 6.9, 9.9, 11, 12.4, and 13.2); which were statistically significant ( $p < 0.01$ ).

In addition, Huang et al. (2009) recruited 205 PIs into 3 cohorts (breastfeeding (76), BF (62), and CF (67)), which were prospectively followed at hospital discharge: third day, second week, and fourth week after hospital discharge. The proportions of PIs in BF and CF groups experiencing negative and positive sucking behaviours at hospital discharge, second and fourth week after hospital discharge were not statistically significant when compared to the breastfeeding group. However, a statistically significant difference was seen on the third day after hospital discharge ( $p < 0.01$ ; adjusted residuals  $> 1.96$ ), when BF (38.7%) compared to CF (31.3%) displayed more negative sucking behaviour during attempts to initiate EBF at the breast.

On the other hand, in a cross-sectional study involving a small and convenience sample of 87 nurses, Al-Sahab et al. (2010) argue that 69% of nurses disbelieved in ‘nipple confusion’ phenomenon and were nearly six times ( $RR = 5.85$ ; 95% CI 1.22 to 27.99) more likely to use BF than their remaining colleagues.

The pooled results suggest that the high proportions of negative sucking behaviours reported in the BF group might have resulted from the development of ‘nipple confusion’, making the establishment of EBF difficult; this was consistent with previous studies (Nascimento and Issler, 2003; Kramer and Kakuma, 2007; Collins et al., 2008). Notably, Vannuchi et al. (2004) argue that the absence of ‘nipple confusion’ in CF group was inconclusive, because performance bias was observed in the provision of additional care to mothers of PIs in CF group.

### **Baseline Breastfeeding Rates at Hospital Discharge**

This outcome was reported in 5 studies (Collins et al., 2004; Abouelfetoh et al., 2008; Collins et al., 2008; Flint et al., 2008; Al-Sahab et al., 2010). In a RCT consisting of 303 PIs included in the intention-to-treat analysis, Collins et al. (2004) report the proportions of PIs who were fully breastfeeding to those not breastfeeding and partially breastfeeding (i.e. combined) in CF (92/151 or 61%) and BF (72/152 or 47%) groups respectively at

hospital discharge; the number needed to treat (NNT) for 1 extra infant to be discharged home fully breastfeeding was 7 (95% CI 4 to 41). The data suggests that CF significantly increased the likelihood of PIs being fully breastfed at hospital discharge by almost two-fold (RR=1.73; 95% CI 1.04 to 2.88; p=0.03). These results are consistent with previous studies (Collins et al., 2008; Flint et al., 2008). Collins et al. (2008) and Flint et al. (2008) observe statistically significant difference in proportions of PIs not breastfeeding fully at discharge from hospital; in favour of CF (RR=0.75; 95% CI 0.61 to 0.91) and BF (RR=0.82; 95% CI 0.62 to 1.09) respectively.

However, Abouelfetoh et al. (2008) report the baseline result at 1 week after hospital discharge as proportions of PIs exclusively breastfed to those not exclusively breastfed in CF (14/30 or 47%) and BF (10/30 or 33%) groups respectively. This result may indicate that more PIs in CF compared to BF group, were exclusively breastfed at 1 week after hospital discharge, however, the two groups did not significantly differ in terms of full and partial breastfeeding (t=1.11; p=0.29). Al-Sahab et al. (2010) on the other hand, argue that 63% of the nurses disbelieved that CF when compared to BF increases the breastfeeding rates of PIs at hospital discharge.

The pooled results demonstrate that CF when compared to BF significantly increases the likelihood of PIs achieving full breastfeeding status on discharge home. This evidence seems to have a high consistency across all the included studies that reported this outcome. However, the results used for this evidence were reported from hospital settings where the BFHI was already in place before the study was conducted, which may have made it convenient for the nurses at the NICU to practice CF.

### **Prevalence of Breastfeeding after Hospital Discharge**

This outcome was reported in 4 studies as the prevalence of not breastfeeding or partially breastfeeding at 3 and 6 months after hospital discharge (Collins et al., 2004; Kramer and Kakuma, 2007; Collins et al., 2008; Flint et al., 2008). Collins et al. (2004) observe that both CF and BF groups showed no significant difference in not breastfeeding or partial breastfeeding prevalence at 3 months (RR=1.31; 95% CI 0.77 to 2.23; p=0.33) and 6 months (RR=1.44; 95% CI 0.81 to 2.57; p=0.22) after hospital discharge. However, Collins et al. (2008) suggest that CF compared to BF showed an increase in breastfeeding fully prevalent at 3 months (RR=0.59; 95% CI 0.40 to 0.87) and 6 months (RR= 0.65; 95% CI 0.48 to 0.89) after hospital discharge. The slight difference between the results from Collins et al. (2004) and Collins et al. (2008) could be as a result of withdrawal of some of the mothers of the PIs in CF group, who were dissatisfied with using CF.

In contrast, Kramer and Kakuma (2007) and Flint et al. (2008), argue that CF compared to BF resulted in no significant increase in breastfeeding fully prevalent at 3 months (typical RR=1.18; 95% CI 0.88 to 1.58), (typical RR=0.83; 95% CI 0.65 to 1.05); and 6 months (typical RR=1.31; 95% CI 0.89 to 1.92), (typical RR=1.33; 95% CI 0.82 to 1.14) respectively after hospital discharge.

The pooled results suggest that there was no significant difference between CF and BF in terms of the establishment of successful EBF after hospital discharge (i.e. measured at the 6<sup>th</sup> month), but, the high degree of noncompliance reported in these studies (Collins et al., 2004; Kramer and Kakuma, 2007; Collins et al., 2008; Flint et al., 2008) might have actually limited the investigation of the true effect of the treatment (i.e. CF) beyond hospital discharge.

### **Length of Hospital Stay**

Length of hospital stay (in days) was reported in 6 studies (Collins et al., 2004; Nascimento and Issler, 2004; Kramer and Kakuma, 2007; Abouelfetoh et al., 2008; Collins et al., 2008; Flint et al., 2008). Collins et al. (2004) observe that CF group stayed longer in hospital than BF group by an average of 10.1 days (95% CI 3.9 to 16.3). This result was consistent with 4 other studies (Nascimento and Issler, 2004; Kramer and Kakuma, 2007; Collins et al., 2008; Flint et al., 2008). Abouelfetoh et al. (2008) on the other hand, observe shorter hospital stays in CF group (9.1 days  $\pm$  5.61) than BF group (12.5 days  $\pm$  8.20). This variation might have resulted from the late inclusion of a cohort design by Abouelfetoh et al. (2008) to prevent the exposure of BF to CF.

The pooled results indicate that CF when compared to BF significantly delayed the discharge of PIs from hospital.

### **Critical Analysis of Included Studies**

The strengths of the included studies are that Collins et al. (2004) and Abouelfetoh et al. (2008) used intention-to-treat analysis to minimise compliance and attrition biases. In these studies (Collins et al., 2004; Abouelfetoh et al., 2008; Huang et al., 2009; Al-Sahab et al., 2010), there seems to be rigor in data analysis; they reported adjusted results which further accounted for baseline differences between control and treatment groups.

However, the included studies had some limitations; firstly, it was only Collins et al. (2004) that reported the use of statistical power analysis ( $\alpha=0.05$ , 80%) to calculate the sample size that was needed to measure the minimum treatment effect. Notably, the sample size used by Collins et al. (2004) appears to be a true representation of the study population (i.e. PIs), making the results from such study more applicable to a similar population of PIs elsewhere. The sample sizes used in these studies (Abouelfetoh et al., 2008; Huang et al., 2009; Al-Sahab et al., 2010) appear not to be truly representative of the study population, because no power calculation was reported and participants were recruited using convenience sampling. However, Abouelfetoh et al. (2008) minimised contamination bias by including a cohort study design in which BF group was studied first.

Secondly, Abouelfetoh et al. (2008) and Huang et al. (2009) reported very short follow-up periods of 6 and 4 weeks respectively, which may have limited the studies' ability to adequately assess possible long-term effect of the treatment. But, Huang et al. (2009) argue that a short-term follow-up duration was used to prevent loss to follow-up.

Thirdly, Al-Sahab et al. (2010) and Collins et al. (2004) reported wide CI, which suggests that their sample sizes were small and may limit generalisability of their results. Conversely, Collins et al. (2008) reported a narrow CI, which implies that the sample size was adequate. However, there is overlap in the CI reported by these studies (Collins et al., 2004; Kramer and Kakuma, 2007; Collins et al., 2008; Flint et al., 2008), which implies weak precision of their results. Furthermore, the generalisability of the findings of Al-Sahab et al. (2010) is limited by the type of research - cross-sectional study does not measure causality (Evans, 2003; Fineout-Overholt et al., 2005). With the exception of Al-Sahab et al. (2010), the bottom line of these studies is that their findings have clinical and policy implications in promoting EBF in PIs using CF approach in similar settings and population.

## **Conclusion**

In this review, evidence from pooled results may seem to suggest that CF when compared to BF is associated with reduced negative sucking behaviours (suggestive of the absence of nipple confusion phenomenon), unacceptably long hospital stays, and the inability to maintain EBF after discharge from hospital. However, there is insufficient credible evidence in this literature review on which to base recommendations of CF over BF as an exclusive supplemental feeding method for promoting EBF in PIs.



Consequently, the implications of this evidence for future research and practice is that other factors such as hygiene, setting/environment and economic status should also be considered when investigating and/or deciding whether CF is better than BF.

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# Visual-Spatial Attention: Can Sounds Affect Perception of Visual Objects?

Charlotte Clark

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## ABSTRACT

It is currently understood that it is possible for attention to be drawn by a stimulus to an area in space without the conscious decision to do so and that this can be achieved across modalities; for example, a vibration of a mobile phone or a ringtone can draw eyes to the phone's location (Hairston et al., 2003). Whether a combination of audio and visual information can affect perception of visual objects enough to demonstrate inhibition of return (IOR) is unknown. In a classic Posner task (1980), participants fixate on the centre of a display screen and have their attention drawn to surrounding areas. When a flash is cued at a surrounding location, target detection is facilitated comparative to anywhere. In a stream/bounce paradigm (Sanabria et al., 2004), motion and sound is added to a similar kind of display to that of Posner's (but without cueing), to investigate the perceptual effects of combined visual and auditory information on attention. It was discovered that the addition of a sound could influence how the display was perceived. With a combination of the Posner (1980) display and stream bounce paradigm, it is possible to test whether the perceptual influences of sound can change the dynamics of how attention is known to work. In this experiment, object-based IOR was not found when just visual stimuli were presented, but was evident when visual and auditory information were combined. The results demonstrate that there is promise for further research into the influence of sound on visual perception, but that stimulus driven spatial attention can be sensitive to methodological issues arising from the specifics of the task. Consequently, spatial interference and eye movements are discussed.

## Introduction

The ability to pay visual attention in an environment and combine information with other incoming senses (e.g. auditory information) comes as a multisensory, evolutionary advantage. This is because localising a snake, for example, is easier when combining

spatial information (movement in the undergrowth with a ‘rattle’ sound), than locating a predator with a single modality on its own. Attentional mechanisms therefore are adapted to be integrated so that they can pick out and combine the saliency of any given environment as needed even without the conscious control of the observer.

In the visual domain, space-based attention, as demonstrated by Posner (1980), is an attentional prioritisation of a location. Posner’s well known cueing paradigm used a central fixation point and peripherally located objects to successfully evidence that when fixating in the centre of a display screen, exogenous cueing (any non-informative deliberate event before the target onset that captures attention) can manipulate how quickly a spatial location can be attended to without direct eye movements. Thus, it is possible to attend psychologically to an area (using covert attention) without direct eye contact. Subsequent investigation demonstrated the variability of spatial attention. It was likened to a metaphorical spotlight, able to adapt and accommodate attentional spread according to the task (Eriksen and Eriksen, 1974). Thus, local features can either help or hinder depending on their similarity, or their salience (LaBerge, 1983). Furthermore, Egly, Driver and Rafal (1994) demonstrated that spatial attention was object based since reaction times were quicker for targets within the same object than an alternative object. Therefore, attention spreads within the cued object fastest. However, beyond a 250 millisecond (msec) timeframe, the benefit is reversed and response delayed, a concept known as inhibition of return (IOR) (Klein and Ivanoff, 2008).

During an IOR task, participants fixate on an uninformative central location within a visual display, and reaction time to locate a target appearing peripherally is measured. Sometimes the target is correctly cued and at other times, not. Consequently, it is possible to manipulate which side will be responded to quickest because IOR enables new stimuli to be prioritised over old by the use of inhibitory tagging (Klein and Ivanoff, 2008). Further, moving objects equally show this tendency (Tipper, Driver and Weaver, 1991). Since object movement does not affect this preference, this study will consider what happens to IOR when the object’s identity and location are ambiguous. Moreover, with this ambiguity, can spatial attention be manipulated cross-modally by the addition of sound? For instance, visual motion perception is altered by the addition of sound when discs approach one another from either end of a visual display and the point of coincidence is occluded. When no additional stimulus is present, the discs are perceived as passing (streaming). However, a sound input at the moment of coincidence changes perception to discs bouncing off each other (Sekuler, Sekuler and Lau, 1997). This is because the senses are designed to cooperate (Spence et al., 2000). Interestingly, IOR has equally been demonstrated as supramodal in this way (Spence et al., 2000). Thus, since

IOR can travel with an object (Tipper et al., 1991) and motion perception can be altered by sound, it leaves open the question of whether IOR could be manipulated to travel with an object during a bounce/stream paradigm.

This investigation will seek to identify whether a combination of sound and vision can affect how objects are perceived and attended to. To achieve this, a typical Posner cueing task (1980) will be adapted into the bounce/stream paradigm demonstrated by Sanabria, Correa, Lupianez and Spence (2004). If IOR tends to follow this stream/bounce perception, it is expected that inhibition should apply to different sides depending on whether or not the sound is present. With the sound, inhibition should return to the starting location and RTs should be slower when cue and target are on the same side of the screen.

## **Method**

### *Participants*

An opportunity sample of sixty-eight healthy volunteers, 17–50 years of age (mean age 21 years), took part in the study. All were naive to the purposes of the experiment. Six participants were excluded (see results section). The remaining sixty-two participants consisted of fifty-seven right handed and five left handed individuals. All reported having normal hearing and normal or corrected-to-normal vision.

### *Apparatus*

The Stimulus presentation, response times (RT) and error rates were controlled and recorded by a Mac computer (Superlab) and keyboard. Headphones delivered the sound.

### *Materials*

The display layout can be seen in *Figure 1*. Display measurements were as follows: Discs 1.2 cm (diameter), distance of discs to top and bottom of display 6 cm, from discs to occluder 8 cm, visual occluder 9.7 cm x 4.7 cm, distance of occluder to top and bottom of display 6 cm, display box 23.5 cm x 13.5 cm, central fixation 1.1 cm x 1.1 cm.

### *Design*

A 2x2 within subjects design was used. The first factor was block type with two levels: sound or silent. The second factor was side of target with two levels: same (screen side as cue) or different (opposite screen side to cue) randomised throughout a block. The dependent variable was RT in msec. The order of the blocks was decided beforehand (by coin toss) and was alternated between sound and silent conditions for a total of 4 blocks.

### **Procedure**

Care was taken to ensure that participants did not see the experiment beforehand and participants were advised that the experiment was designed to see whether what they hear and see affected how quickly they reacted to a visual target. All participants were tested in individual booths and given the same information. Participants chose a preferred responding hand in advance and were told to react as quickly and accurately as possible. Clear instruction was given to focus on the fixation point (central black cross) throughout trials and to have their chosen hand readied at the keyboard. For each participant, a ten trial practice was given to familiarise themselves with the task, in same block-type as had been allocated as the starting block. If more practice was required, more trials were given. Participants wore headphones in all blocks.

For silent trials, a white horizontal rectangle was centrally placed within a black screen. Inside were black discs either side of the screen equidistant from the centre (as shown in *figure 1*). At the start of every trial the display was shown for 500 msec before a non-informative white circle (cue) flashed for 200 msec within one of either discs to initiate covert attention. Afterwards, the discs moved to the opposite side of the screen taking 1000 msec (*figure 1, T3*). Whilst occluded, (*figure 1, T2*) the fixation momentarily flashed. On same side trials, the target (white asterisk) subsequently appeared on the same side spatially within a disc. In the different side trials, the target appeared on the opposite side spatially. On catch trials no target appeared and after 2 seconds (if correctly rejected), the trial terminated. For half of the trials the target appeared immediately after movement stopped, whilst for the other half there was a 200 msec delay. Participants responded with the keyboard space bar ending the trial and initiating the next.

For the sound block, the same format was used, but during occlusion the sound (click) was delivered for 100 msec at the coincidence point of the discs. Each block contained a mixture of same, different and catch trials randomly presented. Each block had sixty trials, twenty-four same/different side trials randomised amongst twelve catch trials.

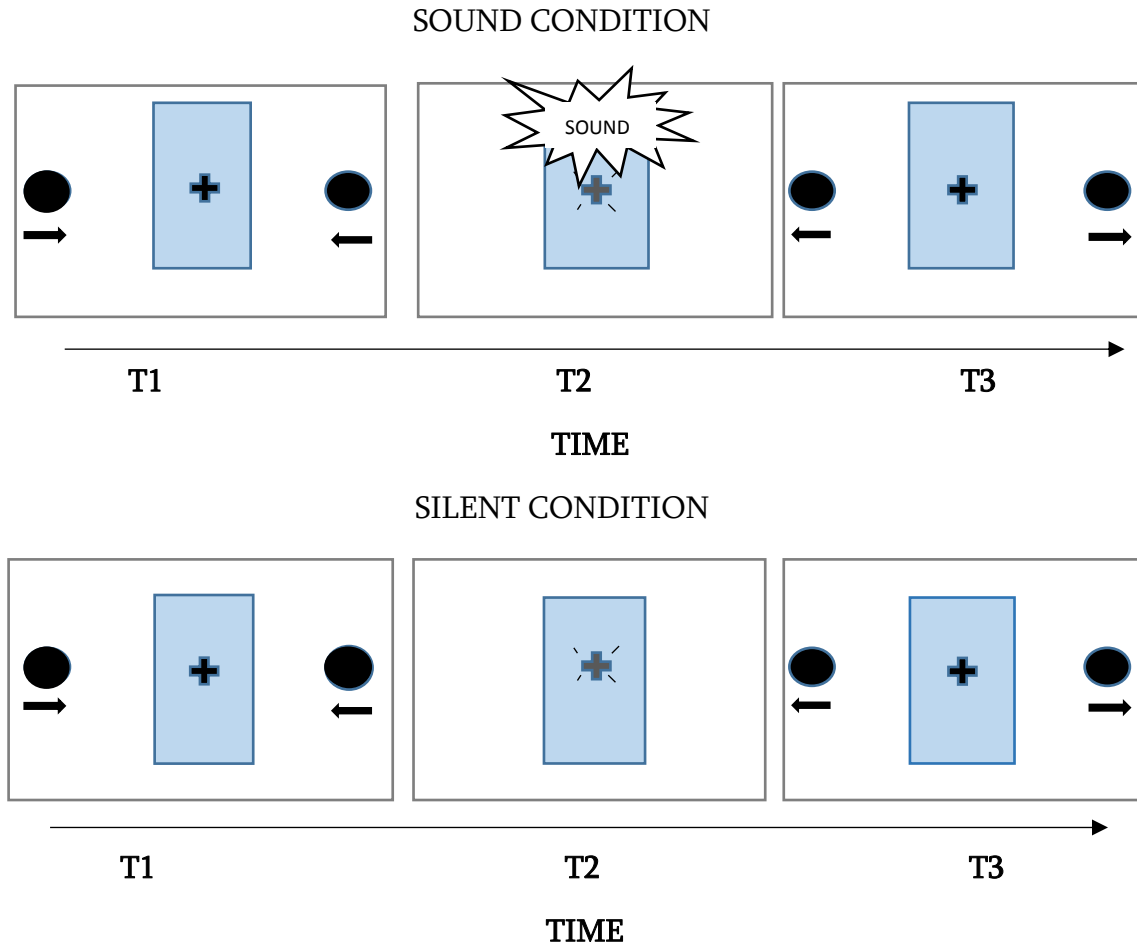


Figure 1: A schematic illustration for a sound trial (encouraging the perception of a bounce), and the silent trial (encouraging the perception of streaming). The *black arrows* below the discs indicate the direction of movement (before and after the occlusion) for that trial. T1, onset of motion at the beginning of the trial (after the cue has been deployed) T2, the occlusion point with central fixation point flashing, T3, the re-emergence of discs after coincidence.

## Results

The data from six participants was excluded from analysis; four were omitted due to a lack of understanding and two were omitted due to a failure to complete. Trials where the target was not present (catch trials) were placed into four categories and counted. The trials were grouped according to whether or not the sound was present, those that were accurately ignored (correct rejections) and those that were accidentally responded to (false alarms). The number of false alarms was 4.1%. The trials where the target was present were counted using the criterion that the response was made between 50–1500 msec after the target onset. These trials were counted (as hits) and the rest as misses (2.6% misses overall). Target trials were grouped according to whether the target and cue had appeared on the same, or on separate sides. For each participant and each combination of sound



(present/absent) and side cue (same/different), the median reaction time (RT) was calculated using only the trials that were hits. Overall, four scores were calculated for each participant. The inter-participant means of median RTs were then calculated for each condition (see figure 2).

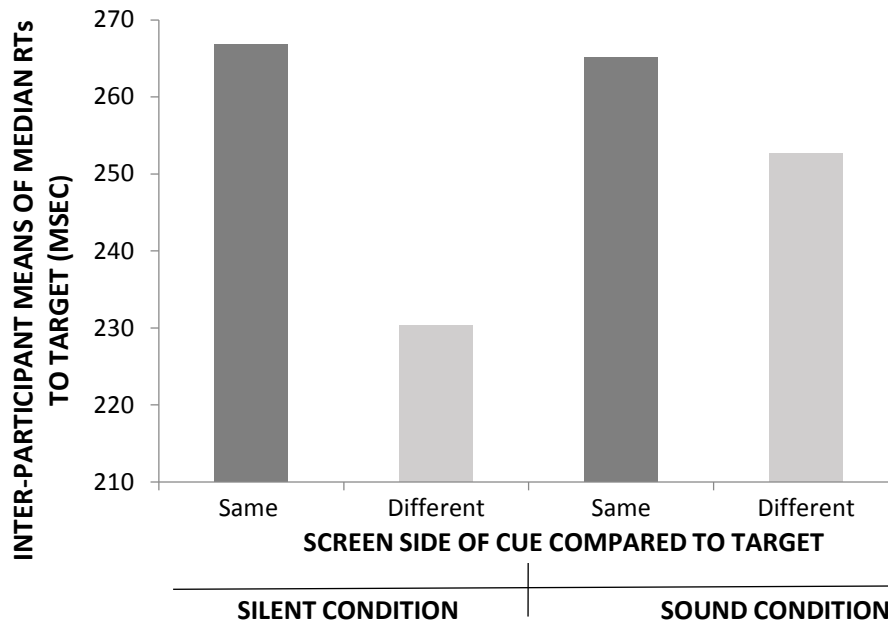


Figure 2: Inter-participant means of median reaction times to locate a same screen side (dark grey) versus different screen side (light grey) cued target by condition (sound versus silent). Silent condition standard deviations were 68.5 (same), 65.7 (different). Sound condition were 57.9 (same) and 53.6 (different).

A two-way (*sound* by *side*) within subjects analysis of variance (ANOVA) was conducted with mean of median RT as the dependent variable. There was a significant main effect of condition (*sound* vs *silent*)  $F(1, 61) = 6.65$   $p = .013$ , and a significant main effect of side (*same* vs *different*)  $F(1, 61) = 134.98$   $p < .001$ . There was also a significant interaction of *sound* by *side*,  $F(1, 61) = 51.13$   $p < .001$ . Pair-wise planned comparisons (t- tests) revealed that participants' RTs were significantly faster for *different* side trials compared to *same* side trials in the *silent* condition,  $t(61) = 12.30$   $p < .001$ , showing no object-based IOR in the *silent* condition as responses were quickest for the cued object (in new location). Observers were also significantly faster to react to *different* side trials compared to *same* side trials in the *sound* condition  $t(61) = 5.24$   $p < .001$ . Successfully evidencing IOR for the object after a perceptual bounce facilitated by sound. Thus, sound may be able to

influence IOR in visual perception, but without concise evidence of object-based IOR in the *silent* condition, this cannot be inferred.

## Discussion

The aim of the study was to investigate whether the addition of sound could alter visual perception. To achieve this, the Posner style cuing task (1980) was modified with a bounce/stream paradigm Sanabria et al. (2004), in an attempt to influence the perception of IOR. Contrary to expectation, the results yielded no evidence of IOR (consistent with a stream) as evidenced by Sanabria et al. (2004), since object based IOR should have travelled with the object creating an advantage for the side originally cued. This would be consistent with object-based IOR as evidenced by Tipper et al. (1991). Rather, observers were faster on the different side (with the cued object). Interestingly, for the sound condition, IOR was demonstrated (in line with the perception of a bounce) suggesting that IOR can be influenced by the addition of sound. Unfortunately, without coherence between conditions this cannot be concluded. Therefore, further consideration of the results is required.

Given that IOR is a known component of spatial attention that can be produced in most attentional experiments (Klein and Ivanoff, 2008) and that it still applies even when objects move (Tipper et al., 1991) and can be shown between different sensory modalities, (Spence et al., 2000), it is likely that methodological issues account for the findings. One contingency could be eye position. The central fixation point is an essential element in all covert attention tasks and whilst the importance of central fixation was conveyed, eye movements were not tracked and therefore cannot be relied upon. Posner and Cohen (1984), for example, demonstrated that IOR requires that attention is drawn back to the fixation point after cuing. Consequently, if eyes move within the trial, the inhibitory effect could remain at the environmental position of where the cue had occurred. This is consistent with both findings, and consistent with the reduced effect (*figure 2*) evidenced in the sound compared to the silent condition since, regardless of the perceptual set, the same side (cue to target) would be inhibited if this was the last place of energy. Thus in the sound condition, the findings, may not have arisen from multisensory visual perception, but from failure to remain fixated.

Equally, Tipper et al. (1991) evidenced that IOR in static displays has an additional inhibitory component compared to moving displays. Thus with moving displays, covert attention may be more easily disrupted since object-based attention requires additional mental resources (Chen, 2012). For example, during Tipper et al. (1991) moving

paradigm, the objects rotated around the fixation point remaining at an equidistant point from fixation at all times. Moreover, at no point were they occluded. In the current paradigm however, the objects were occluded behind the fixation area. Therefore, if the inhibitory tagging was disrupted during the period of occlusion IOR may have diminished. This is possible because ambiguity of movement has been highlighted as a potential pitfall in moving displays (Reppa, Schmidt and Leek, 2012). Tipper, Brehaut and Driver (1990) however, evidenced object based IOR with occluding columns. Therefore, interference may have increased in this instance, compared to Tipper et al. (1991) by the proximity of the objects to fixation, which changed throughout the task substantially and even connected with the object in which fixation was presented.

Importantly, the substantial changes in movement could have altered the attentional spread beyond fixation to include the incoming discs (Eriksen and Eriksen, 1974), especially since the similarity of surrounding features is known to interfere (LaBerge, 1983) and that distance between objects is also crucial (Franconeri, Johnathan and Scimeca, 2010). Thus, without any extra perceptual cues available, and coupled with objects similarity, it is conceivable that these factors compromised covert attention more markedly in the silent block compared to the sound block. Moreover, the task combination may have diminished the inhibitory tagging (Egly, et al., 1994) by interference (Franconeri et al., 2010). However, without tracking eye movements, this claim cannot be substantiated.

Evidencing eye movements was one of the criticisms of Spence et al. (2000) during his supra-modal paradigm; the use of eye tracking with sub-set of participants in a further replication of this study would be beneficial. More importantly, with eye movements accounted for, the other methodological issues such as ambiguity of movement across fixation could be considered. However, as demonstrated in other cross-modal investigations (Kennett, Spence and Driver, 2002), visual restriction can be an important feature in studying multisensory perception. Indeed, for the perception of a stream/bounce effect, the visual restriction is warranted. Thus, it may be possible to just relocate the ambiguity to a location away from fixation. The movement would still need to be directed across both left and right visual hemifields (Sereno and Kosslyn, 1991), so as not to increase the difficulty of the task. However, the space between objects and fixation could be changed to reduce the likelihood of interference (Franconeri et al., 2010). For example, Tipper, Jordan and Weaver (1999) evidenced scene-based inhibition at different multiple locations on the screen; thus, if the display was moved equidistantly above fixation, it may be possible to eradicate or at least re-evaluate the aforementioned possible limitations.

## Conclusion

In conclusion, the demonstration of IOR in a cross modal attention paradigm such as this can be difficult to produce. However, the results show promise towards the cross-modal influence of sound upon spatial attention. Given that the display used has important methodological constraints, a change in the spatial qualities of the display is needed to rule out interference between fixation and covert attention. Equally, since eye movements were not ruled out, future investigations would need to also factor eye tracking into the methodology. With these alterations, and the eventual observation of the object-based IOR, it would be possible to advance the understanding on how the influence of sound can affect perception and attention. In addition, it would facilitate better understanding of the cross modal elements of spatial attention more generally.

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# **“Only through science we can establish certain knowledge about management and accounting”: A Critical Evaluation**

Christina Ionela Neokleous

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## **ABSTRACT**

Science refers to a systematic and organised body of knowledge in any area of inquiry, using a standardised set of techniques for building a particular knowledge. It is an intellectual and practical activity that encompasses a systematic study of the structure and behaviour of the natural and social world. While the natural science is the study of the universe and how it works, the social science focuses on the study of human behaviour and structure in the society. In this extent, a variety of debates took place relating to the philosophical approaches based on social sciences research. As the approach of natural science, positivism has received significant criticisms in comparison to other approaches in terms of its philosophy and methodological relevance and its relation with the differences of natural and social sciences. Throughout this paper, I shall evaluate and discuss the advantages and limitations of positivism and consider whether the approach can establish certain knowledge about social science, focusing within the area of management and accounting.

## **Introduction**

According to May (2011, p. 7), “science is thought of as being a coherent body of thought about a topic over which there is a broad consensus among its practitioners as to its properties, causes and effects”. Chalmers (1999, p. 1) argued that science is based upon “what we see, hear and touch rather than on personal opinions or speculative imaginings”. Thus, it is important to consider the varied debate surrounding the philosophical approaches based on social sciences research. Each philosophical approach, such as positivist, interpretivist and critical, has its own assumptions regarding the ontology, epistemology and based on its methodology’s strengths and weaknesses from which the related valid knowledge is obtained. Considered “the approach of natural science” (Neuman, 2011, p. 95), positivism has received remarkable criticisms in comparison with other approaches in terms of philosophy and methodology’s relevance and its relation with the differences of natural and social sciences. As a representative of many research paradigms affected by natural science method and with reference to social

sciences, positivism will be evaluated and discussed throughout this paper. A discussion and analysis concerning philosophical assumptions of natural science will be provided, including ontology, epistemology, human nature and methodology. In addition, a critical evaluation based upon the natural science adopted by positivism to gain knowledge in social sciences will be given. Furthermore, advantages and limitations will be discussed and various examples will be provided. Lastly, key points and arguments will be reflected upon, considering whether positivism can establish certain knowledge about social science, particularly within the area of management and accounting.

### **Philosophy of Natural Science**

As Hart (1998, p. 51) stated, “the philosophical meaning of ontology, epistemology and the methodological meanings of validity, reliability and data” play a significant role within the research process and the selection of the appropriate philosophical approach. To this extent, the philosophical assumptions of positivism will be analysed to obtain a more accurate evaluation of the relevance of the natural science method adopted by social sciences. Hallebone and Priest (2009, p. 26) define ontology as “a set of axiomatic assumptions within a philosophy of science that define the way a reality is conceived and perceived”. In this perspective, realism exists in a positivist stance as an assumption about social world’s reality. Burrell and Morgan (1979, p. 4) contend that realism sees the social world as “an external one to individual cognition that is made up of nothing more than names, concepts and labels which are used to structure reality”. In addition, Hughes and Sharrock (1997) note that both natural and social sciences are implemented by following specific rules and holding deterministic structures and so from the angle of positivism, the reality seems to be objective and stable.

Neuman (2011, p. 93) defines epistemology as “the area of philosophy concerned with the creation of knowledge, focusing upon how we know or what are the most valid ways to reach truth”. Following a positivist approach, epistemology is defined as “the researcher’s view regarding what constitutes acceptable knowledge where only observable phenomena can provide credible data and facts” (Saunders et al., 2012, p. 140). Positivists focus upon the explanation and prediction of the related phenomena by observing the accuracy and the relationship between the phenomena (Hallebone and Priest, 2009). In management and accounting research, these concepts are adopted in order to gain a valid knowledge so that positivists are able to manage company’s cultures as variables acquired by company, and controlled or managed by a company’s management team (Saunders et al., 2009).



In this extent, Hallebone and Priest (2009, p. 170) reflect that “knowledge can be applicable to broad categories such as communities, industries and/or organizations where this can be useful to see the world through categorical lenses”. While natural science works with physical substances such as molecules and liquids, social science is concerned with social phenomena related to human behaviour in terms of cause and effect, and data is collected concerning social environment and people’s reactions to it. Based on the assumption of social–scientific theories, Burrell and Morgan (1979, p. 6) argue that a significant role is at play in “the nature of the relationships between man and the society in which he lives in”.

It is evident that natural sciences’ assumptions impact upon the method of knowledge investigation in social science, where based on positivism, some authors think that it is possible “to remove all subjective bias in the assessment of the reality of knowledge” in order to examine objective knowledge (Johnson and Duberley, 2000, p. 57). Thus, it can be considered that positivism holds “a nomothetic methodology where it applies protocols and procedures derived from the natural sciences to gain knowledge of the social world” (Johnson and Duberley, 2000, p. 78). This methodology consists of four significant angles: causality, reliability, generalisability and operationalism. In this methodology, the possibility of quantification (using mathematics) helps to achieve the findings’ internal validity and reliability, in order to examine the casual relationships and the external validity (Johnson and Duberley, 2000). As a result, when conducting research following a positivist approach, the researcher adopts an objective, independent and value-free stance (Saunders et al., 2009). The following section provides a critical evaluation and discussion based on the natural science adopted by positivism to gain knowledge in social sciences, using various examples to reveal the advantages and limitations.

## **Critical Evaluation and Discussion**

### *Ontology*

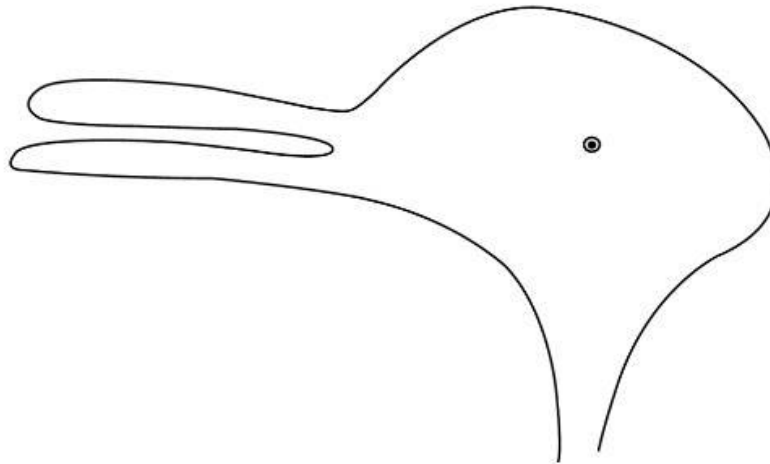
The assumption on natural sciences’ ontology may be considered problematic, and cannot be used for social sciences research due to the differences between the two sciences’ objects and the differences between each one’s properties. According to Chua (1986, p. 604), “people cannot be treated as natural scientific objects because they are self-interpretive beings who create the structures around them”. Benton and Craib (2011, p. 76) characterise it as “a life of meaning, of language and reflexive thought and communication”. They also state that “human beings and human groups own a property of self-consciousness and they have the ability to reflect on themselves, their situations

and their relationships” (2011, p. 76). Thus, human beings’ actions are not influenced by any incentive or cause, but they interpret and give reasons for their actions and also for others’ actions (Hughes and Sharrock, 1997). By observing two people or two societies, it can be noticed that they are completely different, possessing individual characteristics and properties (Griseri, 2002), leading to the statement that “social world is always changing” (Marshall and Rossman, 1989, p. 147). Thus, it is evident that there is a limited diversity of human behaviours and social phenomena where positivists cannot figure out an accurate prediction of human phenomena. Knowing that there are differences between human beings and physical substances, human beings cannot be seen or treated as natural objects. If the researcher fails to distinguish these differences between the two sciences, then it is possible to critique the positivist method as inappropriate to gain the acceptable and reliable knowledge surrounding social phenomena.

### *Epistemology*

As Saunders et al. (2009) and Griseri (2002) have discussed, the natural science asserts that observed phenomena are used to gather acceptable knowledge. Some arguments (see Chua, 1986; Baker and Bettner, 1997) reflect that the research related to human senses may create problems. This reveals limitations where the observer cannot see the actual image and as a result, is not able to reflect the appropriate meaning. His/her senses may see something that appears differently in reality. The researcher may interpret observed evidence in different ways or may state an argument with a variety of meanings (Benton and Craib, 2011). This situation can be represented by the classic ‘duck-rabbit’ figure (see below) in which it “can be seen either as the head of a duck or as the head of a rabbit” (Benton and Craib, 2011, p. 32). S/he may see and reflect different interpretations or see and interpret some evidence in different ways each time s/he observes it. For this reason, positivism may have unfavorable and unexpected results, and not reflect the actual reality that this approach pursues.

Classic 'Duck-rabbit' Figure



(Source: Benton and Craib, 2011, p. 33)

In the case of the empirical, positivism is referred to as “evidence or observations grounded in human sensory experience such as touch, sight, hearing, smell and taste” (Neuman, 2011, p. 9). To this extent, “scientific researchers cannot use their senses to observe directly some aspects of the world such as intelligence, attitudes, opinions, emotions, power, authority etc.” (Neuman, 2011, p. 9). They cannot observe the mental state of individuals since “human beings are not simply external shells of shape, size and motion; they have an inner life not accessible to observation in the normal way” (Hughes and Sharrock, 1997, p. 48). This kind of observation may achieve external behaviour but is unable to understand and clarify the feelings or the thoughts of subjects (participants). Thus, a motivation is given to start the detailed and in depth examinations on internal rationales. According to Hughes and Sharrock (1997), questionnaires and other systematic research tools can be utilised to mitigate the weaknesses of human senses and to gain access to internal scenes of subjects.

Moreover, scientific laws are considered as “summaries of observations [that] depend on the interpretation of scientific laws [...] implied by the existed evidence” (Benton and Craib, 2011, pp. 31-32). To maintain the scientific laws, “it is necessary to adopt a looser criterion of testability, which acknowledges that new observations may count for or against a hypothesis, but can never conclusively prove or disprove it” (Benton and Craib, 2011, p. 32). A clear knowledge cannot be achieved since the natural science theory changes as new evidence is discovered or observed. Furthermore, Benton and Craib (2011) argue that, based on Kant’s (1953) statement, sensory experience cannot be a guide to the key concepts essential to knowledge, such as ‘cause and effect’ or ‘space and time’,

but these may be achieved from the natural perception. To this extent, social sciences cannot be considered to be the searching general laws as those of natural sciences because the social world does not behave in these kinds of patterns.

### **Research Methodology**

As previously mentioned, there are differences between social and natural sciences based upon the relationships between the researchers and their research objects or subjects (participants). Due to each research paradigm's arguments being reliant on different assumptions, without having any common ground, it is obvious that "debating methodology is a no win situation" (Watts and Zimmerman, 1990, p. 149). Researchers communicate using different 'languages' driving towards an endless debate. When adopting natural science method, the value-free and independent position between researchers and objects are considered the main features. According to Bryman (2004), positivist researchers support that quantitative measurement is viewed as a subsequent device allowing researchers to be consistent with themselves and others, and contributing to reliable and valid findings. On the other hand, Griseri (2002) argues that the values cannot be excluded from the investigation of knowledge in the social world. According to Benton and Craib (2011, p. 28), "social scientists try to find out explanations of particular social phenomena by value orientations and thus, social explanation seems to be value-relevant". An alternative reflection is addressed to the value of social science objects which may not be feasible in natural science method. As an example, an organisation/company can be seen as one entity of society with specific values which lead to specific outcomes, characterising it as the key center of the company's existence (Griseri, 2002). However, this incident can be characterised as inexplicit and ineligible when attempting to gain the related knowledge of social phenomena. The method used to mitigate the value is considered inadequate and unsuitable to gather the related knowledge, whilst also potentially significantly impacting upon the accuracy of findings.

Therefore, the findings of positivism may seem to be irrelevant, and as a proof, Chua (1986, p. 609) refers to organisational problems that are realised "as manageable by the appropriate design of accounting controls such as budgets, cost standards, cost allocations and divisional performance criteria". Hogan and Sinclair (1996, p. 439) also argue that "positivist management research lacks relevance [giving the example of the benefits of positivism research to management such as those related to] industrial psychologists [in the extent that positivist method allows the researchers to identify] a set of characteristics that enable an individual to meet those requirements or the methods of selection to identify individuals with desired amounts of those characteristics".

Regarding the issue of independence, this value may face difficulty during the establishment since researchers cannot be fully independent from the subjects of the research, particularly during the data collection process. Griseri (2002) represents the case of female researchers that acquire deeper information than male researchers, due to the different gender stereotypes and different language styles that the interviewer can employ to influence the emotional stance of the respondents, producing different final results. Thus, it is evident that human beings can be influenced by their own perceptions and also by the status of researchers in order to remain independent. When researchers are using a positivist approach, this lack of independence is considered to be a difficulty figured in the context, as they attempt to mitigate any bias.

In order to discover any variables' relationships for theory development, positivism presents limited outcomes that demonstrate weaknesses of the related theory that represent the complicated social world (Johnson and Duberley, 2000). It seems that human beings are not responsive and thereafter, can act independently without following the strategy of natural science (Benton and Craib, 2011; Hughes and Sharrock, 1997). Thus, using variables to predict human beings' actions and ignoring free will and other such social world's considerations, it could lead to results that expose limited chances of social reality through representations. Through their study of earnings management based on positive accounting research, Shuto (2007) and Barth et al. (2008) suppose that the behaviour of senior management to manipulate earnings figures is affected by the companies' executive pay related to earnings figures. However, it can be noticed that in a business environment, other causes could appear in context which may affect the management's action such as the reputation acquisition (Graham et al, 2005) and financial analysts' expectations (Elias, 2002). Thus, it is known that variables may not show the reality of the business world.

Having in mind the characterisation of human beings as social science objects, Smith (1970, cited in Hughes and Sharrock, 1997, p. 30) states that "individuals acting on their own self-interested preferences could produce large-scale social regularities". Furthermore, Saunders et al. (2009, p. 10) argue that "the structural aspect of management may differ but the essence of the function is very much the same in all organizations". Thus, even if human beings maintain an independent stance, there is no doubt that human behaviours can be affected by environment or financial/organisational conditions. In Watts and Zimmerman's (1990) paper, accounting researchers seem to use scientific method to uncover systematic patterns in accounting, and to present a framework related to accounting prediction. In the example of earnings management, a variety of external

causes may appear in the context and could affect the decision-making process on how to manipulate earnings management. The relationship between accounting practices and executive pay can be indicated as a possible solution to establish specific legislation or accounting standards in order to combat this particular issue.

### **Aspects of Social World**

Through critical lenses, positivism disregards other kinds of societies that could play a significant role in research focused upon the definition of social world. According to Chua (1986, p. 604), “economics and accounting are based on assumptions about the information needs of people given limited access to resources” for maximization purposes. This statement suggests that capitalism appears to be the first priority of capital owners in order to maximise their profits. To this extent, positive accounting research tends to focus on the stock market, where researchers think that the relationship of accounting information and firms’ stock prices can be explained and predicted, revealing the shareholders’ benefits (DeFond et al., 2007; Landsman et al., 2012). On the other hand, other forms of business exist, such as within countries following the ideology of communism, in which accounting systems are controlled and supervised by the State in order to reach and accomplish desirable economic objectives (Tyrrall et al., 2007). In their study, Tyrrall et al. (2007) presented the case of a stock market with companies controlled by families, arguing that positive accounting may not be suitable for these kinds of companies. Thus, by disregarding the social world nature, different accounting information and results may seem inaccurate and irrelevant when using the positivist approach.

### **Conclusion**

Through this philosophical journey, a critical evaluation of natural science method was conducted. The opportunity was given for social scientists, particularly those in the area of accounting and management, to further understand the philosophy of positivism regarding the natural and social sciences, and whether certain knowledge can be established through science. It is evident that positivism has various limitations that make it difficult to reflect reliable and valid conclusions; it excludes the examination of both external and internal reality and the background of the action or event taken place. It is known that humans take action with objectives in mind and during the process they may be affected by their internal or external environment or by events that happened in their workplace or in general economy. As a result, various theories exist and relate to human behaviour that can describe and explain their actions, choices, habits, attitudes and

thoughts. Positivist researchers do not take into consideration the environment and events, namely the social, economic and political context, that may significantly impact a participant's action, choice, thought and position and subsequently affect the outcome or result. Thus, attention must be given while accounting and management researchers choose philosophical assumptions that may have a significant relationship with natural science method, as their results may not reflect nor thoroughly examine the real situation and the factors that played a significant role during the process in order to find outcomes and to reach conclusions.

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## Could Language Supersede the Aesthetic as the Subjective Ground for Experience?

Henry Downes

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### ABSTRACT

In the *Critique of Pure Reason*, Immanuel Kant tells us that space is the subjectively necessary condition of sensible intuition, and as such gives the external reality we experience its spatial dimension. Thus, without the a priori form of space, no experience of an external world would be possible. Moreover, as specifically a priori, space is not a discovered feature of a mind-independent world but rather a form imposed on raw sense data that literally makes sense of it. This is what we mean when we say that space is the subjective ground of experience. However, according to the twentieth century philosopher Wittgenstein (1961), experience is provided with its form by language. Language achieves this by forming a logical picture of the world, whereby subjects make sense of reality by means of meaningful sentences. With these two theories in view, it seems reasonable to ask whether language could be as fundamental, even more so, a ground of experience than the spatial-temporal fabric of reality that Kant argues for. What we will find is that while there is indeed a specific conceptualising operation of the understanding that further orders and makes sense of our perceptions, Kant refrains from describing this process in linguistic terms. Nevertheless, we will also see that Kant (1929) entertains this idea later in his career, going so far as to say that “thinking is a kind of talking with oneself.” Despite this, my short study can only conclude (perhaps controversially) that while Kant does not appear to regard mental behaviour as linguistic behaviour, it does not seem inconsistent with his doctrine of transcendental idealism to do so.

Kant’s very particular designation of the status of space in the transcendental aesthetic serves as a major point in the development of the epistemological<sup>1</sup> thesis of transcendental idealism (Kant, 1929). In “The Transcendental Aesthetic” he contends, in opposition to

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<sup>1</sup> Epistemology is the area of philosophy that is concerned with the nature, sources, and limits of knowledge. Kant’s theory of the nature of knowledge is called transcendental idealism. In brief, this theory posits that the experienced world consists of *appearances* and not objects *in themselves*. The form of appearances, Kant writes, is not determined by external objects themselves but by the mind of the experiencing subject.

both the rationalists and empiricists, that space is neither an object nor a relation or relations between objects in the world. Instead, Kant sees space (along with time) as a subjective condition for the very possibility of outer experience; without space and time, human beings would have no cognitive access to the world. Kant's arguments for the status of space are of particular interest to us as they appear before the explication of time, offer more depth, and lead immediately into Kant's first declaration of his epistemological doctrine. Kant insists that space and time (the "aesthetic", to use his term) provide the subjective ground of experience: the necessary conditions that make experience of a world possible at all. In his early work, the *Tractatus Logico-Philosophicus*, Wittgenstein (1961) presents us with a competing view: that *language* is the subjective ground to all experience.

This essay will begin with an exposition of Kant's argument for the designation of space and the role of the aesthetic as the a priori<sup>2</sup> conditions for experience, and will then move on to a discussion of whether language can be thought to supersede the aesthetic as the subjective ground for experience. Michael N. Forster's essay "Kant's Philosophy of Language?" is useful in illuminating how Kant's apparent lack of interest in the philosophy of language makes the definition of his attitude toward language very difficult. Despite this, Forster's own reading of Kant implies that language could possibly have a greater role in Kant's epistemology than his arguments suggest in *Critique of Pure Reason*. In turn, the potency of the question of primacy is reduced somewhat if we agree with Forster, and we may have good reason to do so.

Kant's arguments for the status of space are broken into two parts – the metaphysical exposition and the transcendental exposition. The main bulk of the argument is found in the metaphysical exposition, and the majority of my analysis will concern the four arguments presented therein. Sections 1) and 2) taken together explain how space cannot be thought of as an empirical object, and instead represents something a priori. In this belief, Kant undermines the position of empirical realism, whereby the objects of our experience correspond precisely with real objects in the world. Kant argues in 1) that if we are to represent to ourselves objects that appear simultaneously as outside of me and outside and next to one another, then the space in which we perceive these objects must be presupposed (Kant, 1929, p. A23/B38). On these grounds, space cannot be observed as a relation between objects in the world, because space must exist independently of these

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<sup>2</sup> A priori knowledge is knowledge that is independent of experience. For Kant therefore, space represents the *a priori conditions of experience* of an external world; *a priori* because space is not a property of the world itself but 'prior' to any possible experience of the world. In this sense, space is a necessary condition *for* experience; one cannot imagine an external world without the space in which extended objects appear. Thus for Kant, the mind imposes a form on the world.

objects for them to appear as existent within it. In support of this claim, Kant adds in 2) that we cannot represent the absence of space; however we can perfectly well represent it as devoid of objects. For this reason Kant argues that, when properly considered, space is an example of an a priori, given that it provides appearance with its very form (that of objects appearing next to one another, and in a different place to me and other objects) as opposed to being part of the appearance itself (Kant, 1929, pp. A24-25/B38-39). Furthermore, Kant argues that if space were indeed an item of a posteriori knowledge (knowledge dependent on experience), then certain geometric principles (such as that there may be only one straight line between two points) could not be considered a universal rule. Instead, such principles would merely be the product of induction, insofar as our current experience tells us that “no space has been found which has more than three dimensions” (Kant, 1929, p. A24).

So far, Kant has offered sufficient reasons for us to believe that firstly, space is not an object itself, as it must be presupposed prior to the objects which appear within it and secondly, that space is apparent to us a priori, in that it does not appear to us through our observations, but is a prior condition for our perception of objects to be as it is. In the third and fourth sections of “The Transcendental Aesthetic”, Kant seeks to refute the claim that space is a concept. If he can successfully refute this claim then it would seem that the only option left for the status of space is his own – that it is an immediately given a priori. Insofar as anything is considered a concept, it is a product of the understanding and a rational object. Therefore just as parts 1) and 2) are to be considered a refutation of empiricist claims regarding the status of space, parts 3) and 4) aim to refute a rationalist description of space, i.e. that it exists as a “general concept of relations of things in general” (Kant, 1929, pp. A24-A25). As mentioned above, Kant requires that space be known a priori on the grounds of 1) and 2). In parts 3) and 4) we discover that not only must it be known a priori, but that it must also be an example of a *pure intuition*. What Kant means by a pure intuition is an intuition that contains no sense data (Kant, 1929, p. A20/B34), and is therefore distinct from both sensations and concepts. The argument in part 3) runs parallel with that of part 1). Recall that in 1) Kant argues that we cannot represent to ourselves any object in space without first presupposing space itself; here Kant makes the similar claim that we cannot represent any single place (as in a single constituent part of space) without first presupposing space itself. Cognising a singular place must presuppose space itself because any cognition of a constituent part of space is explained in terms of applying *limitations* to our current idea of space as a whole, i.e. breaking it into parts by means of applying measurements (Kant, 1929, p. A25/B39). Kant’s argument relies on the distinction between space itself and any place that occurs within it. A definitive place is conceptual because in cognising any such place, we

distinguish a definitive part that can be thought of as *in* the whole from the immediately given, however we cannot say the same for space itself because we cannot assume the existence of places without space itself first being apparent to us.

At this point, a rationalist may defend their designation of space as conceptual by replying that in the above argument Kant has only proven that the existence of places presupposes the existence of space itself, much like the existence of humans presupposes the existence of primates. The terms “human” and “primate” however, both represent concepts, and the fact that one falls under the other does not provide a satisfactory reason to believe that the prior concept is for some reason another species of understanding. Kant must hereby do more to explain how space is different from other concepts.

The answer, writes Andrew Janiak, lies in Kant’s understanding of extension and intension. Briefly understood, extension refers to subordinate concepts that come under a concept, whilst intension refers to prior concepts that are present within the named concept. Hence “primate” is an intension of ‘human,’ as to call upon the concept “human” you must implicitly call upon the concept “primate”. “Primate” is *within* “human” according to this understanding, much like places are within space (Janiak, 2009, sec. 3.3). Janiak argues that Kant’s suggestion in 4) is that if space is a concept then we ought to be able to construct it out of its many constituent parts. However, space is represented to us as having an infinite number of parts as we can always divide one or the other part further. If it were a concept, it would have infinite intensions. As Janiak points out, Kant’s argument is that while a concept can (in principle) have infinite extensions *under* it, it cannot have an infinite number of intensions *within* it, because in order for us to represent the concept to ourselves we must paradoxically call upon every one of its infinite intensions (Janiak, 2012). Indeed, Kant argues that space is thought of in this way – as having infinite parts, “for all the parts of space coexist *ad infinitum*” and therefore must be considered in terms of a priori intuition and not as a concept (Kant, 1929, p. B40).

Following on from Kant’s arguments regarding the status of space, we now have good reason to accept Kant’s conclusion, which consists of his first mention of the doctrine of transcendental idealism. Essentially, the importance of space’s status is that in as much as it forms the subject-seated ground for all possible experience of an external world, it also reveals that we have access only to the world of appearances and not to things in themselves. We recognise this in acknowledging that empirical reality is only the reality of our experience of the world, and not of the world beyond that (Kant, 1929, pp. A26-A28/B43-B44). The importance of space being at the very foundations of our experience in forming the conditions becomes obvious through this point in Kant’s work. The a

priori intuition of space is necessary for human experience and knowledge and represents the understanding's action upon sensation – the empirical object of our experience represents sense data that has been brought under the form of space by the understanding. Hereby if the status or the primacy of space were to be undermined, Kantian epistemology would be challenged to explain how we form an experience of the world (and thus the world as it appears to us, the phenomenal world).

As previously mentioned however, Wittgenstein's early philosophy in the *Tractatus Logico-Philosophicus* (hereafter *Tractatus*) suggests an alternative necessary condition of experience. According to Wittgenstein, the form of all experience must be the language through which we construct our image of the world. Therefore, whatever is outside of these means (i.e. inexpressible in meaningful language) is cognitively inaccessible to human beings. This is what is to be understood by his claim that there is truth in solipsism: "the world is *my* world," the experiential world is the only world we can access, and the way we do this is through the use of language (Wittgenstein, 1961, pp. 56-57). This thesis has been called the picture theory of language, as it claims that all meaningful language functions as a somewhat logical picture of the world. If Wittgenstein is correct in his explanation of human world-forming behaviour, then language appears the most likely candidate for what we have been calling the subjective condition for experience. However, Kant's arguments serve to show that *space* is the subjective ground of, and defines the form of, our outer experience. Thus, an urgent question of primacy arises, which I have stated in my title: "Does language supersede the aesthetic [in particular - space] as the subjective ground for experience?"

The response we would expect from a defender of Kant's epistemology would be to insist upon the dualism of knowledge in Kant's theory. They would rightly point out that Kant names the pure intuition of space as a *necessary* ground for experience, but not a *sufficient* ground. In the first case, the pure intuition of time must also be added to the equation. Together these pure intuitions are called the aesthetic, and form the ground of outer and inner experience respectively. The aesthetic, according to Kant, gives us a priori the form of experience – the conditions of space and time that everything in our representations necessarily conforms to (Kant, 1929, pp. A41-43/B59-60). Similarly to Wittgenstein's contention that the limits of thought provide the limits of language, Kant would regard the limits of the aesthetic as the limits to sensible knowledge; in setting its form, it also sets its limits. Therefore, for Kant it must be impossible to perceive something that exists under neither of these conditions. The aesthetic is, however, not in itself sufficient for all knowledge, and there must be other capacities that complete our

experience. Indeed, Kant introduces his dualism clearly and concisely in the following passage:

Our knowledge springs from two fundamental sources of the mind: the first is the capacity of receiving representations, the second is the power of knowing an object through these representations. Through the first an object is *given* to us, through the second the object is *thought* in relation to that (given) representation (Kant, 1929, p. A50/B74).

The second capacity Kant refers to here is the understanding, and its characteristic spontaneity. He further writes that neither of these two faculties, sensibility nor understanding, can take precedence over the other: “only through their union can knowledge arise” (Kant, 1929, p. A51/B75). Due to Kant’s clear indication of a dualism of this kind, we should be inclined to reconsider the question of whether language can be the primary condition for experience. It would seem that language has no role in Kant’s epistemology here; indeed he mentions ‘concepts’ of the understanding and logic as science of the rules of the understanding, but neither of these equate to giving any weight to the claim that language has a primary role for two reasons. The first is that, as stated, neither of these capacities takes primacy over the other, so even if language were given a defined role by Kant (which he explicitly does not do), there is no reason to believe that it would have some fundamental and necessary role to play. The second is that Kant clearly ascribes a significant role, in both the transcendental aesthetic and the transcendental logic, to the psychological makeup of the human mind. His psychologistic explication hereby appears to regard language as incidental; language may represent the communication of concepts from one human to another, but the contents of the understanding are not at all identical with language, as described in the *Critique of Pure Reason*.

Wittgenstein’s position regarding the fundamental makeup of world experience is interesting to compare with Kant’s; the two epistemologies share some common ground, so much so that Erik Stenius, in his commentary on the *Tractatus*, goes so far as to call Wittgenstein’s project “transcendental lingualism” (Stenius, 1996). Stenius claims that Wittgenstein is undertaking a Kantian project. This, however, should not be taken to mean that Wittgenstein is directly influenced by Kant’s writing. Instead, it is a claim that points to the *indirect* influence of Kantian ideas that have pervaded Western philosophy since the Enlightenment, and that “his anti-Kantianism meant only (like other Kantians) that he transformed the system of Kant and thus created a Kantianism of a particular kind” (Stenius, 1996, p. 214).

In parallel, Wittgenstein's and Kant's ideas both rely on the input of the subject-seated understanding in giving experience its form and shaping the world. As we have discussed already, Kant's theory relies on the aesthetic to give reality its form. According to Stenius though, Wittgenstein is engaging in an essentially similar explanation of human cognition of the world when he highlights the role that language plays in providing the conditions and form of our experience. Precisely how these two theories run parallel requires more clarification. Stenius' argument relies on the claim that the activities of the understanding described by Kant and the activities of the understanding described by Wittgenstein in terms of their world-forming function both refer to the same thing. He argues that on the one hand, what is imaginable is what is logically possible, logic being "the science of the rules of the understanding", and that what is logically possible is therefore all that is thinkable (Stenius, 1996, p. 218; Kant, 1929, p. A52/B76), making thought the "logical picture of reality". On the other hand, for Wittgenstein the contents of our world-forming experience (what can be presented via a logical picture) are identical with the contents of language (Wittgenstein, 1961, p. 57; Stenius, 1996, p. 218). In other words, meaningful language *is* a logical picture, and insofar as it is a logical picture, it also corresponds to what is theoretically possible: thought. Despite the notable differences between the two theories, it is clear that Stenius is suggesting that Wittgenstein and Kant are largely talking about the same processes of world-forming. The implication to be drawn from Stenius' suggestion is that there is essentially little or no difference between what we mean by "content of the understanding" and "language". However, as we have already discovered, it appears that Kant deliberately avoided introducing linguistic terminology to describe the content of the understanding in the *Critique of Pure Reason*. However, a conflation of these two epistemologies offers certain explanatory advantages, namely that it explains how what we think closely correlates with what can be said and also how we cannot seem to think of a concept that we could not put into words.

In his essay, *Kant's Philosophy of Language?*, Michael Forster points out that Kant's attitude to language is on the whole rather ambiguous (Forster, 2012, pp. 485-511). This is notable, he argues, in his change in attitude between writing the three Critiques and some of his later works. Essentially, Forster's argument is that Kant is content in certain later writings, namely *Vienna Logic* and *Anthropology*, to imply that language is indeed part of the essence of thoughts; the content of the understanding. In *Anthropology* Kant is quoted as having written that "thinking is talking with oneself" and he also objects in *Vienna Logic* to defining a proposition as a judgement expressed in words on the grounds that a judgement must already be verbal (Forster, 2012, pp. 507-08). This marks a stark contrast to his earlier work, in which Kant demonstrates his preference to designate the



content of thought in purely psychologistic terms, such as “concept” and “intuition” etc., where he might have admitted a relation between thoughts and language. Forster goes on to argue however, that Kant’s refusal to address the question of thought’s relation to language with his own arguments demonstrates that he does not formulate an explicit philosophy of language, but that he engages with the matter by means of agreeing with others who had written on the topic such as Leibniz, Wolff, and his contemporaries and former students Herder and Hamann (Forster, 2012, p. 509). Hence it is difficult to ascertain Kant’s reasons for this shift, and to determine his own position on the relation between thoughts and language. Forster outlines several reasons why Kant may have never previously explicated thought in terms of language; such as to avoid confusion with his more language-oriented contemporaries, or because of a personal disagreement with Herder, but these fail to provide a satisfactory philosophical answer to Kant’s apparent shift (Forster, 2012, p. 506). Forster however entertains another possibility, namely that Kant, by his own admittance, was “altogether inexperienced in scholarly philology [and therefore] completely incompetent to make philosophic use of the facts that are related and verified in that branch of knowledge” (1785 cited in Forster, 2012, p. 506).

Kant’s unwillingness to properly engage in the philosophy of language leaves the initial problem unsolved; i.e. that we are unsure what role to assign language in mental activity, particularly that of world-forming. If we could equate thought and language with some certainty then we could in turn conclude that language *does* have a primary role in forming experience. As it stands however, we are unable to do so, as Kant has no discernible philosophy of language. The answer to the primacy question posed in this paper therefore rests on just how convincing we find Forster’s argument. If we are convinced by him then there is no reason to exclude a role for language in understanding, although it is worth pointing out that this will not assign language the unparalleled primacy Wittgenstein does, as the understanding takes no prominence over sensibility. Even so, the question of primacy’s potency is reduced considerably in this case. If we are not convinced however, then the question of primacy still stands as urgent, perhaps more so than before.

While we are unable to deduce the precise role language plays in experience formation, I believe that I have established that Kantian epistemology could account for an elemental role of language in experience formation. By this I mean that language plays a necessary and grounding role in making human experience possible, much in the same way that the a priori intuition of space makes the appearance of an external world possible. In this sense language too is an a priori condition of experience. This is evidenced by my discussion of the similarity between the Kantian phrase “content of the understanding”

and Wittgenstein's ideas about language's role in cognition. I further established that Kant himself was unwilling to define concepts as fundamentally linguistic. Yet Forster's essay shows that although Kant entertained the idea that mental behaviour is linguistic behaviour later in his career, it may not be necessarily inconsistent with the doctrine of transcendental idealism to suggest this. To this extent I would argue that a Wittgensteinian reinterpretation of Kant's epistemological position is necessary in order to clarify the contentious issue hitherto considered, namely the exact relation between the understanding and language, which I am currently most suitably equipped to draw attention to, rather than solve in full. It is therefore my hope that such an interpretation would prove conducive to further philosophic enquiry.

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# Language Variation, Language Attitudes and Linguistic Discrimination

Raluca Diana Papuc

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## ABSTRACT

In our daily lives, people instantly form positive or negative language attitudes towards others judging by the accent with which they speak. This essay will demonstrate that people who speak with an unpleasant accent will encounter social consequences, whilst people who use language correctly receive numerous opportunities; this is because decisions are made based upon the speakers' speech. As a result, language attitudes express the linguistics preference based on which people are judging other's speech. The purpose of this paper is to define language variation, language attitudes and linguistic discrimination within the field of sociolinguistics and to discuss the relationship between the mentioned concepts. The article will focus on studies that offer real life situations in which people linguistically judge others, including cartoon movies in which the main characters use a Standard English accent, whilst the other characters have foreign accents (Lippi-Green, 2012). The same issue is apparent within the workplace where linguistic discrimination is present as employers are more likely to hire people that speak in a pleasant manner (Garrett, 2010).

## Introduction

The literature in the field of sociolinguistics has covered the analysis of language variation, language attitudes and linguistic discrimination. The purpose of this essay is to explore and define the relationship between the previously stated concepts, using relevant examples from studies which have focused on analysing daily conversations. In order to determine this relationship, several authors have explained the importance of language variation, language attitudes and linguistic discrimination. In addition to these explanations, examples from Disney cartoons have been utilised in order to illustrate the noticeable relationship between the stated concepts. Furthermore, other studies have been conducted in order to demonstrate that people maintain different language attitudes towards other languages and to identify the relationship between the three concepts within the workplace.

## **Language Variation**

Language variation is a subject that has been analysed not only in the field of sociolinguistics, but also in psycholinguistics and linguistics (Krug and Schluter, 2013). However, this assignment will focus on the analysis of language variation within the field of sociolinguistics. Language variation is related to the manner in which language varies and the elements which lead to the employment of one form of the language instead of another (Krug and Schluter, 2013). In this case, Stockwell (2007) has determined the most important factors which lead to language variation including occupation, age, sex, class, and ethnicity. Furthermore, Wardhaugh (1986) admits that each language has its own variations and that language variation is influenced by social factors such as the social group and the geographic zone. Moreover, Bell (2014, p. 103) has explained that “a variety is a relatively distinguishable form of a language, often based on geographical or social differences”. For example, taking England into consideration, it can be noted that there are language varieties such as Standard English, Oxford English and London English (Wardhaugh, 1986). This proves that one language has distinct language varieties.

Several definitions have been formulated in order to explain language variation. For example, Labov (1972, p. 323) defines language variations as “different ways of saying the same thing”. In this case, “runnin” and “running” are two distinct versions that express the same idea (Bayley & Lucas, 2007). Similarly, Hudson (1996, p. 22) defines language variation as “a set of linguistic items with similar distribution”. Furthermore, Lippi-Green (2012, p. 38) explains that “we exploit linguistic variation available to us in order to send a complex series of messages about ourselves and the way we position ourselves in the world”. It can be argued that individuals identify variation in the conversations of others and this is used to create an opinion about that person (Lippi-Green, 2012). As a result of this latter definition, language variation leads to language attitudes.

## **Language attitudes**

Allport (1954) defines an attitude as “a learned disposition to think, feel and behave towards a person in a particular way”. This definition suggests that an attitude is not inherent, but learned and that individuals have mastered attitudes throughout the process of becoming part of society, thus making the person react towards the social world in a favourable or unfavourable way (Sarnoff, 1970).

It can be noted that language attitudes are a social phenomenon. Garrett (2010) explains that language attitudes have the role of creating opinions about other speakers, by judging

their speech. Furthermore, Garrett, Couplanf and Williams (2003) have studied the origins of language attitudes; they have admitted that attitudes are formed based upon the language varieties and have also found that language attitudes create either advantageous or disadvantageous opinions surrounding the speakers. Similarly, Garrett (2010) has focused on determining from where language attitudes arise. He has mentioned that a variety of factors including the individual experience and the social surroundings create language attitudes. The literature in this field emphasises the fact that there are two types of attitudes: positive and negative (Garrett, Couplanf and Williams, 2003). In this case, Gerard (2012) explains that people are likely to believe that the manner in which they themselves speak is the correct way; hence the other varieties are wrong. As a result, these attitudes are classified into positive attitudes and negative attitudes. The negative attitudes lead to linguistic discrimination amongst speakers.

### **Linguistic Discrimination**

According to Pool (1987), linguistic discrimination is related to an unequal treatment of languages, thus creating unequal linguistic attitudes. This concept is related to the discriminatory treatment of a person based upon their utilisation of a language. It can be argued that one form of language discrimination is linguicism. Skutnabb-Kangas and Cummins (1988, p. 13) have defined linguicism as “ideologies, structures and practices which are used to legitimate, effectuate and reproduce an unequal division of power and resources (material and immaterial) between groups which are defined on the basis of language”. Furthermore, Rubagumya (1991) has argued that the effects of the linguicism are related to the fact that majority languages of many developed countries are imposed, whereas minority languages are ignored.

Lippi-Green (2012) explains that the Civil Rights Act created Title VII in order to ensure that employees could not be discriminated against due to aspects such as age, sex and ethnicity. In addition to this rule, the employer is not allowed to discriminate against applicants based on their own attitudes toward the language variation that the applicant uses. However, it has been accepted that “an adverse employment decision may be predicated upon an individual’s accent when – and only when – it interferes materially with job performance” (Lippi-Green 2012, p. 150). As a result, an employee cannot be rejected on the basis of linguistic discrimination. However, this is not the situation in the workplace. Taking into consideration the situation in the United Kingdom, numerous examples within the workplace relating to linguistic discrimination can be noted. However, people who are linguistically discriminated against in the workplace have adapted and so it does not occur unexpectedly.

In order to illustrate linguistic discrimination at the workplace, the General Accounting Office conducted research which reported that 461,000 nationwide companies admitted that when they hired people, they had linguistically discriminated against the employees with foreign accents (Lippi-Green 2012). Moreover, research related to the discrimination of the applicants for advertised jobs has proved that the employers initially conduct telephone interviews in order to detect whether the applicant has an accent (Lippi-Green 2012). These evidences have been also highlighted in Carroll versus Elliott Personnel Services (1985), where it is argued that one employee of a recruitment agency was asked to screen all the candidates over the telephone in order to detect the persons who had a relevant accent (Lippi-Green 2012).

### **The Relationship between Language Variation, Language Attitudes and Linguistic Discrimination**

Taking into consideration the discussions and the definitions provided above about language variation, language attitudes and linguistic discrimination, it can be argued that their particularities are related. Giles and Coupland (1991) have emphasised the fact that language attitudes and language variations cannot be regarded separately because a stable relationship exists between them. Language attitudes are usually constructed by assessing the speakers' language variety, including dialects and accents due to the nature of language. Similarly, Meyerhoff (2006) has argued that attitudes concerning distinct varieties of languages may lead people to have different attitudes towards individuals that use those language varieties. As a result, the concept of language attitudes is a social, not linguistic, phenomenon and has a strong relationship with language variation (Giles and Coupland, 1991). Moreover, Gerard (2012) explains that language attitudes demonstrate the linguistic preferences which people hold and on which they judge other peoples' speech. Similarly, Meyerhoff (2006) argues that people make assumptions about others by judging the manner in which they speak. As a result, language attitudes can be classified based upon a person's language variety and this will be further discussed in the following sections.

Lippi-Green (2012) has identified examples from daily life in which the relationship between language variation, language attitudes and linguistic discrimination is visible. An example in this case is related to Disney cartoons that utilise language variation in order to reinforce different attitudes about each character's speech. In Disney cartoons, characters are linguistically discriminated against due to the language variation that they use. For example, main characters in cartoons possess the so-called "Standard

American/English accent”, whereas the other characters have different accents. This leads to the conclusion that said characters may not be regarded as significant as those characters that possess a British or US standard accent (Gerard, 2012).

An opening line from the animated Disney movie *Aladdin* was accused of discrimination. The line, “Where they cut off your ear if they don’t like your face/ It’s barbaric, but hey, it’s home”, has since been changed (Lippi-Green, 2012 p. 107). Although the line was altered, the accents remained the same. Furthermore, Precker (1993) explains that the positive characters within *Aladdin* talk with an American accent, whilst the bad and marginal characters have heavy Arabic accents (Lippi-Green, 2012): ‘This pounds home the message that people with a foreign accent are bad.’ (Lippi-Green, 2012, p. 107).

Lambert et al. (1965) conducted a study in which Arabic and Jewish students were required to rate readers in terms of their personality characteristics. The readers were two bilingual speakers and they were reading the exact same text in several different languages including Arabic, Yemen Hebrew and Ashkenazi Hebrew. The ratings prove that people maintain different language attitudes towards another language than their own; this study illustrates that both Jewish speakers and Arabic speakers rated each other as less sincere and less friendly. In another study, Purnell et al. (1999) used different varieties of English, including a Standard English accent, a Hispanic accent and an African American accent, in order to book an appointment with landlords. All the callers began with the following sentence: ‘Hello, I’m calling about the apartment you have advertised in the paper’ (p. 153). The results of the research showed that in 70% of cases the speaker with the standard American English accent received an appointment, contrasted against only 30% for the other accents (Gerard, 2012).

It can be argued that language attitudes have social impact at the workplace (Bauer & Trudgill, 1998). According to Garrett (2010), language attitudes have also been studied in the employment area. Most of the employment decisions were based upon the speakers’ accent. However, other elements such as speech rate have been studied. In this case, employers preferred speakers with a regular or quicker speech rate than their own. Hopper and Williams (1973) have first studied the language attitudes in the job interviews (Garrett, 2010). Different varieties of English were rated such as the standard form, south white English dialect and the ‘Black English’ dialect. People working in the recruitment process are more likely to give the job to the person that has the most pleasant manner of speaking. By this logic, if someone with a Glaswegian accent and someone with a Standard English accent were applying for the job, the English candidate

would get the job. Speaking with an unpleasant accent has social consequences. It is society that judges the speakers of different language varieties.

Distinct varieties of English are viewed differently. In England, researchers have discovered that various accents around the country are viewed as vulgar, such as accents from areas of London or Birmingham<sup>8</sup> (Lippi-Green, 2012). However, other accents, mostly from the rural zone, are described as delightful. Every person possesses his/her own personal preferred language or dialect sound according to Bauer and Trudgill (1998). Some dialects have a better reputation than others. This is how people in power reinforce standard varieties. People are taught that the manner in which they communicate is the main element to represent their identity. Moreover, educational academies denigrate the way in which certain ethnic groups and people that originate from low working class families speak.

Preston (2002) demonstrated how states are rated for the language pleasantness, character and correctness (Gerard 2002). In the research, people from Michigan State rated their speech as the most correct and most enjoyable. However, they rated Alabama State the lowest. Although those from Alabama did not regard their own speech as the most correct, they believed that it was not worse than others states such as Michigan. This research proves that both people from Alabama and Michigan have distinct language attitudes towards language varieties (Gerard 2002).

## **Conclusion**

The purpose of this study was to determine the relationship between the concepts of language variation, language attitudes and linguistic discrimination. This study has identified the relationships by using relevant examples from the literature. The first three parts of this assignment have presented the findings about the concepts stated above. As a result, it can be noted that each of the above concepts is related to the others because language attitudes are related not only to language variation, but also to linguistic discrimination.

In order to explain the above theory, Giles and Coupland (1991) have argued that language attitudes, which are a social phenomenon, and language variations cannot be regarded separately. Furthermore, Meyerhoff (2006) suggests that language attitudes are

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<sup>8</sup> Brummie accent named the least attractive in the British Isles - Birmingham Mail <<http://www.birminghammail.co.uk/news/midlands-news/brummie-accent-named-least-attractive-8278112>>.



created based upon language variation. As a result, language attitudes can be classified into positive attitudes toward a language variation, or in negative attitudes towards a language variation. The positive language attitudes are usually the standard language variation used by the person who is judging. In contrast, Gerard (2012) explained that the negative language attitudes are directed toward the language varieties other than the standard. This might lead to linguistic discrimination amongst speakers.

Lippi-Green (2012) has argued that even in cartoon movies, the main characters use a Standard English accent, whereas the other characters hold different accents. Thus, different accents reinforce negative language attitude. Moreover, Lambert et al. (1965) have conducted a study in order to illustrate that people are likely to create a negative language attitude towards those who use languages other than their own. Furthermore, Garrett (2010) has explained that a negative language attitude, which is linguistic discrimination, is present in the workplace because employers are likely to hire people towards whom they have a positive language attitude. As a result, people who speak the standard language variety have numerous opportunities in contrast to those who do not speak this language variety, because decisions are usually based upon the speaker's speech. Furthermore, each person has his/her language variation preference which leads to different language attitudes. Based on the above discussion it can be argued that the relationship between language variation, language attitudes and linguistic discrimination is symbiotic and socially formed.

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## Switzerland: Managing Multilingualism at the Societal Level

Berta Badia Barrera

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### ABSTRACT

Switzerland is one of the most linguistically diverse countries in Western Europe, in which four national languages coexist: German, French, Italian and Romansch. This paper demonstrates how Switzerland has been a successful case of managing a multilingual situation within a modern European state. There have been four main factors as to why Switzerland has managed to prevent conflict and achieve a stable linguistic situation; crosscutting religious and socioeconomic divisions, political recognition of language equality at the federal level, decentralised federalism and cantonal autonomy, and political accommodation and power sharing (Schmid, 2001).

However, even if Switzerland has achieved a great degree of linguistic cohesion and stability, some linguistic conflicts have arisen. The most critical period for Swiss linguistic unity was during the 20<sup>th</sup> century, in which different conflictive episodes between the German Swiss and the French Swiss occurred at a political level, with several cultural and linguistic consequences. Despite some political and linguistic tensions, Switzerland has a strong cultural tradition of moderating social and linguistic conflicts and promoting stability, and the Swiss population as a whole highly value tolerance and mediation.

### Introduction

In this article I will discuss how Switzerland has successfully managed multilingualism at the societal level. According to Hoffmann (1991, p. 157), “multilingualism comes about when speakers of different languages are brought together within the same political entity”. In my discussion, I will look at the coexistence of German, French, Italian and Romansch within the political entity of Switzerland. First, I will provide a brief introduction about the current sociolinguistic situation in Switzerland. Second, I will examine the history of the nation formation of Switzerland, in order to understand how the country came to have its current multilingual nature. Then, in the next section, I will discuss the reasons why Switzerland has been successful in managing multilingualism, as well as the linguistic conflicts and tensions that have existed in this nation.

### **Switzerland: A Multilingual Nation**

Despite being a relatively small country (approximately 7.5 million inhabitants), Switzerland is one of the most linguistically diverse countries in Western Europe, hosting four national languages: German, French, Italian and Romansch. German is spoken by around 70% of the Swiss population, French by approximately 20%, Italian by less than 10% and Romansch by less than 1% of the population. The Swiss Confederation has twenty-three cantons. Since Switzerland follows the principle of territorial monolingualism, each canton is linguistically autonomous. Most cantons are monolingual (with sixteen German-speaking cantons and four French-speaking cantons), whilst a few cantons are bilingual German/French (Bern, Fribourg and Valais), the canton of Ticino is Italian-speaking and the canton Graubünden or Grisons is the only trilingual canton, in which Romansch, German and Italian are spoken (Hoffmann, 1991).

Therefore, by far, German is used in the largest geographical area and has the largest number of speakers. However, to make linguistic matters more complex, in Switzerland, German speakers use Swiss-German dialects in their everyday informal communication, which differ from city to city. Standard German, or “High German”, is only used in the written and formal sphere. Therefore, within Switzerland exists a diglossic situation between High German and local Swiss German dialects (Russ, 1994).

According to Clyne (1995), Standard German is used in the National Parliament (together with French, Italian and Romansch), in secondary and higher education, within the media (written press, radio and television), formal church services (liturgy and sermons) and in worldwide fiction literature. Local Swiss German dialects are traditionally used in some cantonal parliaments, early primary education and some fiction literature. However, the use of dialects has increased in the past few years throughout the media. For instance, recently, local Swiss German dialects can be heard on the radio and TV in women’s, children’s and sports programmes, as well as during live interviews and talk and game shows. Further use of said dialect can be heard during weddings, informal evening church services, working groups and practical classes in secondary and higher education, and in some advertisements.

## **The Rise of Multilingualism in Switzerland: Historic Overview**

### *Original Confederation of thirteen cantons*

In 1291 the three mountain cantons of Uri, Schwyz and Underwalden formed a defensive alliance, which gradually increased in size until 1513 when it stood as a group of thirteen cantons. This confederation was primarily bound together as a system of military alliances, and so central institutions did not develop at the time. The Confederation was mainly German-speaking (only the canton of Fribourg had a significant French-speaking population) and German remained its only official language until 1798. German was the only official language since the birth of the Swiss state and for the consecutive five centuries thereafter, there is no history of linguistic conflict between language groups before the 19<sup>th</sup> century (Schmid, 2001).

From the 16<sup>th</sup> century onwards, the Confederation affiliated with French, Italian and Romansch speakers. However, these subject territories, which were associated as allies of the Confederation, did not obtain equality with the thirteen cantons of the original Confederation until much later. According to McRae (1983), it is important to highlight that respect for local autonomy and linguistic diversity was a crucial factor in attracting the allegiance of the French, Italian and Romansch-speaking subordinate areas.

### *French invasion and the creation of the Helvetic Republic*

In 1798 the French army invaded Switzerland, and the original Confederation of thirteen cantons was abolished by the French and was replaced by the Helvetic Republic. Despite opposition from the Swiss, the French established a system of centralisation and authoritarian executive power, transforming Switzerland into a modern state. As Schmid (2001) states, the constitution of 1798 abolished the old feudal privileges and established equality for the individuals and territories. The French and Italian districts were raised to the status of cantons with equal rights, forming the foundations of multilingual Switzerland.

However, the Swiss citizens revolted against centralisation and uniformity of the state, instead wanting their local autonomy back. In 1803, thanks to Napoleon's intervention and mediation, each canton was restored to its own government and a new constitution was passed. In the 1803 constitution, the linguistic equality of 1789 was maintained and more cantons were added, totalling nineteen (Schmid, 2001). As Schmid (2001, p. 126)

contends, it is ironic that “a foreign power was instrumental in producing a multilingual Switzerland with secured boundaries and a sense of identity separate from its invader”.

### *Modern Switzerland*

In 1848, a new constitution was passed which, in its basic aspects, remains as the constitution of Switzerland today. It recognised the multilingual nature of the country by declaring that German, French and Italian were the national languages of Switzerland (McRae, 1983). In 1938, article 116 of the constitution was amended to include Romansch as the fourth national language in Switzerland. And some years later in 1996, a new language article for the Swiss constitution was approved by referendum.

This new article was important for two reasons. Firstly, it recognised Romansch as an official language, which meant that from that moment on, Romansch speakers could use their language when communicating with the federal government (although, Romansch was not recognised as having official status in the parliamentary, administrative and judicial spheres of the federal government). And secondly, the new article proposed federal measures to protect and promote the weaker language communities in Switzerland: the Italian-speaking communities of the Ticino canton and the Romansch-speaking communities of the Grisons canton (McRae, 1983).

### **Linguistic Peace: Managing Conflict in Multilingual Switzerland**

So far, I have considered the evolution of Switzerland into a multilingual state. In this section, I will discuss how Switzerland has managed to achieve a stable linguistic situation. According to Schmid (2001), there are four major explanations for accommodating conflict in multilingual Switzerland: crosscutting religious and socioeconomic divisions, political recognition of language equality at the federal level, decentralised federalism and cantonal autonomy, and political accommodation and power sharing.

#### *Crosscutting religious and socioeconomic divisions*

In Switzerland, religious and socioeconomic divisions crosscut linguistic borders. In other words, there is not a single correlation between one specific language group and a single religion. For instance, Protestants and Catholics can be found in both French and German linguistic groups. It is only the Italian speakers that are predominately Catholic. Furthermore, the economic wealth is equally distributed between the two major language

groups, French and German Switzerland. Such reasoning has contributed to the stability, cohesion and linguistic harmony within the Swiss state (Schmid, 2001).

*Political recognition of language equality at the federal level*

Another element behind the success of multilingualism in Switzerland is the fact that the federal government, through its constitution, formally recognises language equality between the different linguistic groups and ensures the adequate political and social participation of linguistic minorities. Furthermore, the federal government make provisions for investing public money in favour of the linguistic minorities. For example, in 1992, Radio Television della Svizzera received 25% of the entire budget for public radio and television. However, according to McRae (1983), despite these provisions, Italian and Romansch speakers suffer some practical disadvantages in both the public and governmental spheres.

*Decentralised federalism and cantonal autonomy*

On the cantonal level, the *principle of territoriality* is applied, which has been crucial in maintaining language stability in Switzerland. The principle of territoriality consists of the fact that each territory or canton has the right to protect and defend its own linguistic character and to ensure its survival. This right is called linguistic sovereignty: the canton has the right to regulate all cantonal affairs in relation to language. So, the canton determines the official cantonal language, which is the medium of instruction in the public schools. As well, cantonal laws are only written in the official cantonal language, and the cantonal authorities have no legal obligation to deal with citizens in a language different from the cantonal one. As a consequence of the principle of territoriality, linguistic autonomy is guaranteed and this has contributed to a reduction in language conflict (Schmid, 2001).

On the federal level, the *principle of personality* is applied, which regulates relations between the individual and the federal government. The principle of personality consists of the fact that when dealing with citizens and the cantonal authorities, the federal government must adapt to their language or languages, within the limits of the four national languages (McRae, 1983).



*Political accommodation and power sharing*

Political accommodation and power sharing refers to the adequate and proportionate representation that different linguistic groups receive at the federal level. In this way, the executive power is shared in equal terms by the different language groups, which, as Schmid (2001) highlights, is a custom in the Swiss political culture, rather than a legally mandated rule. This power-sharing between linguistic groups applies to the federal council, parliamentary committees, the judiciary, the public service and the military. According to Schmid (2001), power-sharing between language groups in Switzerland is a crucial part of the Swiss political culture and a key element of social integration for the French and Italian-speaking minorities.

**Areas of Potential Linguistic Conflict**

Even if Switzerland has achieved an exemplary status of linguistic cohesion and stability within a complex multilingual setting, it would be misleading to think that no linguistic conflicts have arisen. According to Barbour and Stevenson (1990), conflict is most likely to occur between the French-speaking and German-speaking areas. It is in these two areas which the vast majority of the population are found and where the economic and political power resides.

As Barbour and Stevenson (1990) argue, there is an economic and linguistic imbalance between German Swiss and French Swiss. Even if economic resources were distributed across both French and German-speaking areas, the economic power is concentrated in the German area, where the most important industries, businesses, banks and insurance companies are based. Moreover, Switzerland has more trading relations with Germany rather than with France. When considering the linguistic imbalance, Barbour and Stevenson (1990) claim that amongst senior posts in the federal administration there is a predominance of German-speakers, even if each language group is represented proportionally in the overall number of posts.

Indeed, the most critical period for Swiss linguistic unity was during the 20<sup>th</sup> century. During this time, different conflictive episodes between the German Swiss and the French Swiss took place, especially at the political level (with its obvious cultural and linguistic consequences). As Schmid (2001, p. 135) claims, “with increased Europeanisation and globalisation, there are increased tensions on the political order in Switzerland. The tradition of multilingualism and multiculturalism makes Switzerland

particularly vulnerable to such tensions”. The most significant political and linguistic conflictive episodes between the German Swiss and the French Swiss are listed below:

### *World War I*

With the outbreak of World War I, a deep fissure (known as *graben* or *fossé*) opened between the German Swiss and the French Swiss and threatened to destroy the moral unity of the country. Both groups felt threatened by the other, and they founded two organisations in order to defend their interests: the *Deutschschweizerischer Sprachverein* (1904, by German Swiss) and the *Union Romande* (1907, by French Swiss). The situation became so critical that even the Swiss Federal Council had to reassert that Switzerland was a cultural and political community above the diversity of race and language. Moreover, as the war continued, German Swiss and French Swiss became involved with the discussion of neutrality of Switzerland in World War I. In the end, both groups agreed to remain neutral in the armed conflict (McRae, 1983).

### *The Jura question*

The Jura region was once the northern district of Switzerland’s second-largest canton, Bern. The region engaged in riots and violence for more than forty years. Jura had a double minority: French-speakers, who were Catholic, in a German-speaking Protestant canton. Indeed, in the canton of Bern at the time of the riots, 85% of the population were German-speaking and 15% French-speaking. Finally, after a long struggle, the three predominantly Catholic French-speaking districts of Jura were able to create their own canton, on January 1, 1979 (Schmid, 2001).

According to McRae (1983), the creation of the new canton was praised as an innovative solution to moderate linguistic conflict. During the conflict, political parties stood neither in favour nor against the problem. Indeed, as McRae (1983, p. 111) argues, “Swiss political history is noteworthy and unique for the fact that no significant or political movements have ever emerged to promote the interests of any language group or language region as such in the Confederation”.

### *Helvetic malaise or identity crisis: the question of the European Union*

Some social observers have claimed that Switzerland has suffered from a *Helvetic malaise* or identity crisis, in the decades after World War II. In the late 1980s and early 1990s, the

division (*graben* or *fossé*) between German Swiss and French Swiss has opened and widened again, due to differing views in the area of foreign policy.

In December 1992, there was a referendum in Switzerland concerning the possible membership in the European Union. Once again, the division between German Swiss and French Swiss came to the surface. There was a massive participation of 78.3% of Swiss citizens at the polls. However, the treaty was unsuccessful, and Switzerland voted against entry into the European Union. All the German-speaking cantons rejected the treaty (with majorities of up to 74%), as did the Italian-speaking canton of Ticino. In contrast, all the French-speaking cantons voted to join the European Union, with majorities of up to 80%, but because the German Swiss occupy a large majority of the population and cantons, the measure failed (Schmid, 2001).

### **Conclusion: the “Helvetic Solution” Revisited**

Despite several political and linguistic conflicts between German Swiss and French Swiss during the 20<sup>th</sup> century as mentioned above, there is still room for a peaceful coexistence between the different language groups in Switzerland. Switzerland has been a product of regionalism, and cantonal and federal identities have been long perceived as fully compatible. According to Schmid (2001), Switzerland has a strong common culture that moderates social and linguistic conflicts and promotes stability. Furthermore, tolerance and mediation are highly valued by both German and French Swiss populations, and multilingualism has long been a strongly accepted component of Swiss life. However, linguistic boundaries and attitudinal differences between linguistic groups exist and could become sensitive on some issues, even in a country such as Switzerland that maintains a low level of intergroup tension. Even so, Switzerland remains a very politically and linguistically stable country in relation to other multilingual states.

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## The Shock Value of Ladislav Starewicz's *The Cameraman's Revenge*

Lori Cantwell

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### ABSTRACT

Stop-motion animation has carved a unique path for itself in cinematic history as it encompasses diverse techniques and innovative ideas. Ladislav Starewicz's *The Cameraman's Revenge* is no exception. By using insects as puppets to portray a human love triangle, Starewicz manages to shock audiences on multiple levels. With elements of humour and horror, *The Cameraman's Revenge* is an important creation in cinematic history that remains contemporary and innovative to this day. In this essay, I will examine the ways in which this film may illicit shock value to audience members and scholars alike. I will analyze various cinematic techniques used within the film that can illustrate the sense of shock, and the deeper impact the film's diegesis may contain, including the human psychosis of insect contamination, haptic mise-en-scène, the ethical concerns regarding animal rights on film, meta-textual elements of voyeurism and perhaps the first cinematic evidence of paparazzi. I will also explore the idea that Starewicz may have only intended his film to be that of parody rather than academic evaluation.

Walt Disney, Norman McLaren and Jan Švankmajer are just a few examples of how film animation has been used to entertain children and comment upon society. One filmmaker's creations managed to shock audiences of yesteryear and today; he is Ladislav Starewicz and the film is *The Cameraman's Revenge* (*Miest Kinomatografického Operatora*, 1912). In this essay, I will explore how Starewicz's horrific cinematic creation has brought shock value to audience members and scholars alike, as well carving out its place of importance in cinematic history.

When exploring the history of film animation, a handful of creations are accredited as being pioneering and innovative for their time, with Walt Disney's *Steamboat Willie* (1928) being a prime example. However, short animated features created by Winsor McCay, Georges Méliès and more (Myers, 1999) are equally important in the development of film animation. Ladislav Starewicz was a pioneering, independent stop-motion puppet animator who

worked in Russia and France during his 40-year career which began in 1908 in North-Eastern Poland (current day Lithuania), and he is credited with having created the first Russian animated short film (Cartoon Database, 2013). As the Director of the Museum of Natural History in Kaunas, Lithuania (Cartoon Database, 2013), he made a range of live-action films before attempting stop-motion. After having completed a series of short stop-motion animated films and inspired by Émile Cohl's film *Les Allumettes Animées* (*Animated Matches*, 1908), Starewicz decided to use stop-motion to portray the aggression of stag beetles (Cartoon Database, 2013). However, he was frustrated when he found that the nocturnal creatures would sleep whenever the stage lighting was turned on and, in order to remedy this, he "removed the legs and mandibles from two beetle carcasses, then re-attached them with wax, creating articulated puppets" (Cartoon Database, 2013). This resulted in the short film *Walka Żuków* (*The Battle of the Stag Beetles*, 1910), the first animated puppet film with a plot, and the first animated film from the Sino-Polish region (Cartoon Database, 2013). Starewicz moved to Moscow in 1911 and began work with the film company Aleksandr Khanzhonkov, where he made more puppet animation films using deceased animals.

Starewicz is best known for his creation *The Cameraman's Revenge*, which is set in a human world with insects as actors and can be viewed as a dark and cynical observation of human infidelity. Following his first film, Starewicz developed the basic stop-motion technique of creating miniature replicas of everyday life including wired appendages for puppet mobility that he would rely upon for creating his oddly fascinating yet disturbing stop-motion features. As Geoffrey Nowell-Smith, explains:

He built small puppets from a jointed wooden frame, with parts such as fingers that needed to be flexible rendered in wire, and parts that need not change cut from cork or modelled in plaster. His wife Anna, who came from a family of tailors, padded them with cotton and sewed leather and cloth features and costumes. He designed all the characters and built the settings (Nowell-Smith, 1969).

*The Cameraman's Revenge* takes advantage of the basic stop-motion technique Starewicz used and creates an unsettling metatextual environment. In this film, we witness a bizarre love triangle involving beetles whilst a voyeuristic grasshopper films the illicit affairs and broadcasts them on a movie screen. This provocative satire of human sexuality gains edge and cunning wit since insects are used in what humans consider to be taboo sexual behavior:

"virtually all American couples, married or cohabitating, expect sexual exclusivity of one another" (Treas and Giesen, 2000); however, according to a 2012 survey, there are 57% of men who admit to committing infidelity in any relationship they've had, and 54% of women who have admitted to an act of infidelity too (Associated Press, 2015). This is noted when the seductive Mrs. Beetle reclines on the chaise longue awaiting the embrace of her secret lover, who happens to have twelve legs and two antennae. Nowell-Smith explains, "The reflexive representation of the cinematic apparatus, reaching its apotheosis in the projection of previous scenes before an audience of animated insects, adds a metaphysical dimension to the parable" (Nowell-Smith, 1996).

*The Cameraman's Revenge* uses real insects to tell its story, which acts as the first point of shock for the viewer. The jarring mise-en-scène of insects living in human housing (which can be viewed as barbaric and touches upon human psychosis), enjoying cocktails and indulging in humanistic affairs, creates a sense of extreme discomfort for viewers as it broaches the topic of societal standards of cleanliness and preconceived notions many people place upon insects—they are lesser than humans, therefore we are superior. The sight of insects is enough to send some individuals who are fearful of them into panic. Because of this, the sight of insects thriving in human conditions can be disturbing. It triggers numerous fears that Western civilization has placed upon insects (Weinstein, 2011). These include, but are not limited to, fear of contamination, fear of being bitten and fear of infestation (Weinstein, 2011) and can play into the hierarchal structure that people tend to place on insects versus the human species. One could argue that *The Cameraman's Revenge* falls under multiple genres including horror due to its 'invasion' of society's preconceived notions of insects in human dwellings. The film may play on the human fear that, ultimately, there is no separation between the insect kingdom and human beings—that we are one in the same. In addition, the disgust one may feel while watching *The Cameraman's Revenge* can trigger symptoms of anxiety; research shows that, as a species, we react more strongly to creatures that we find repulsive than we do to animals that may be less repulsive yet naturally more dangerous (UQ News Online, 2008). Perhaps this is an evolutionary response to our ancestors' misunderstandings of disease prevention; in which case, *The Cameraman's Revenge's* shock becomes immeasurable as it unpicks not only Western societal preconceptions, but also evolutionary idiosyncrasies of the human species. This would include, but is not limited to, invertebrate association with disease and agricultural damage, the differences in the ecological scale between humans and insects, the lack of identity exhibited in the insect kingdom and the presumption of mindlessness amongst invertebrates

and radical autonomy of invertebrates from human control (which Starewicz arguably challenges here through his ability to 'control' the insects on film) (Kellert, 2003).

The haptic qualities may also raise alarm for viewers. Since Starewicz used authentic insects for filming, the audience is able to witness their every move including how they groom themselves. The nuance of wings, the glossy exoskeletons and the bubbling segments of abdomens, are all palpable and evoke a strong sense of touch and subconscious stimuli, which can evoke primordial repulsion. These detailed insects paired with a miniature human world add a level of grotesqueness to the film, and this can trigger a sense of fear of contamination for viewers who may have a phobic response; one could perceive the insects as invading or "contaminating" human living spaces, thus adding to the shock value dramatically. The colours can also be interpreted as a metaphor for depravity amongst humans. One could argue that red indicates passion, deceit and anger; blue indicates solitary wonderments and the relation between physical freedom and mental shackles as it is only used during exterior scenes and in prison; and sepia to reflect interior dwellings, internal secrets and burnt desires. It appears as though Starewicz had deliberately taken multiple human perversions, distorted them into a mutation on the insect kingdom and placed them on screen to force the audience to judge itself. One example of human perversion is the use of voyeurism, most evident in the keyhole scene in which the grasshopper spies on the affair. This directly positions the viewer in the film's diegesis and tells us that we are the viewer and that we are actively taking part in the destruction of a marriage due to our voyeurism, reflecting in visual terms the effects of gossip and the pleasure many take in ridiculing and judging; "peeping" into other peoples' lives. One could also argue that the site of Mr. Zhuk's affair forces "sexual deviants" to feel exposed—even shameful—not only for their own personal voyeurism but for enjoying voyeurism on screen.

The techniques used to create *The Cameraman's Revenge* were innovative yet crude; Starewicz replaced the insects' legs with wires in order to make them mobile and suitable for stop motion filming (Tsivian, 1995). This amputation can cause upset as some people may view it to be cruel and inhumane, although the insects we see on camera are, in fact, dead. This raises alarm not only due to its macabre nature of reanimating the dead, but also demonstrates what could be viewed as murder for cinematic entertainment, something which would not be possible today. The American Humane Association's establishment of animal rights (which includes protection for insects) did not take effect until 1939 in Hollywood under the "No Animals Were Harmed®" certification given authority by the



Motion Pictures Producers and Distributors Association (now known as the Motion Picture Association of America) (Lin, 2012). Additionally, no documents pertaining to the rights of animals being treated humanely for film seem to exist within Russia during the 1900s. This raises an important ethical question—would Starewicz's film even be allowed to be made today or distributed in different countries due to the deceased insects? Other films have been distributed despite using live insects, but would such blatant use of dead creatures be treated in the same vein? Or would this perhaps be seen as insects sacrificing their lives for science?

During the contemporary period in which this film was created, a veil of cynicism encapsulated Russia where Darwin's evolutionary doctrine was seen as an argument to support the idea that history acts as a progressive journey towards a better society, which rides in steep contrast to the enthusiasm felt about scientific discoveries elsewhere in the turn of that century (Tsivian, 1995). As Tsivian explains, "[i]n Russia as elsewhere wishful thinkers tried to refute genetics, either by tagging the whole field as being outright "antiscientific," or conducting biological experiments in order to prove that acquired traits are inherited by progeny - the staple of progressist ideology undermined by turn-of-the-century geneticists" (Tsivian, 1995). As such, while some may find the ethics of this film questionable, others may refute it as a scientific triumph due to its use of real insects as opposed to manmade props. However, Tsivian further explains that, for a person living in turn-of-the-century Europe, Starewicz's insects meant a lot more than they do to us today. These small creatures were believed to hold a clue to one of the most intimate secrets of nature, which people felt was on the verge of discovery; hence the public's interest in early microphotography films featuring flies and mites (Tsivian, 1995). It was described as "the idea that even insects lived in societies with rules as complex as those of humans" (Tsivian, 1995). This challenges the Western disdain for insects, the censorship and ethics raised by the film and any visceral reactions to its narrative. By placing insects in human roles, this could be seen to encourage entomologic studies by sparking curiosity about insect behaviour, turning an initial feeling of shock into a feeling of intrigue. Arguably, it can advance entomological interest, which would please Starewicz given his prior role as Director at the Museum of Natural History and his childhood interest in entomology (Wells, 2009).

The use of sophisticated meta-cinematic techniques also creates a sense of irony. The audience witnesses the revenge of a cameraman, in which a camera is seen on screen being used for malicious intent. This may, in fact, be one of the earliest representations of cinematic blackmail, stalking and paparazzi shown on film and this element shows awareness

not only in reality by the director, but also within the film's diegesis by the characters since the act of filming holds high levels of power and intent; it is reflexive of the degree of manipulation present in film. The scene where Mr. Zhuk is smashed through a movie screen is a powerful meta-cinematic technique. It is also worth noting the Latin word "in camera," which meanings include "in a judge's room, not in public" (Oxford English Dictionary 2011). This can be viewed as a metaphor for people involved in love triangles being fed their predicament on screen in a crude manner. One could see *The Cameraman's Revenge* as a catalyst for the audience because it forces viewers to evaluate personal situations and repercussions on a large screen, essentially demeaned by dead insects, which some may find insulting. While there is an element of humour, it is easy to feel shocked due to the absurdity of watching deceased insects masqueraded as puppets by a man who casts judgment onto people. Not only does Starewicz degrade a delicate state of human existence, he also demeans the existence of the insects that he killed and contorted post-mortem. One could argue he acts as a form of critical deity and takes "in camera" to public view by manipulating nature and casting judgments on human life. This notion can be seen in future animation including Jiří Trnka's stop-motion puppet feature *Ruka* (*The Hand*, 1965).

While this film contains elements of sexual voyeurism, one must not overlook the concerns it raises regarding sexual relations and censorship in early cinema. Russian cinema was virtually brand new during the time in which Starewicz was active. It is reasonable to say that censorship did not exist when, only a few years prior, the Lumière brothers were making history with simple cinema, which the complexity of *The Cameraman's Revenge* upsets. This supports the metatextual shock value experienced by vintage viewers, modern scholars and film enthusiasts alike. Sex in cinema grew into a controversial, hot-topic as film advanced. Given that art imitates life, the liberal leanings of *The Cameraman's Revenge* are enough to startle audiences as they witness sexual relations not only between insects guising as humans, but also of two entirely different insect species mating, thus commenting on a historically taboo topic of interracial dating that has only recently begun to break (Chen, 2010). According to Philip Cavendish, the camera functions as an "instrument of sexual revenge on the part of an emasculated subject" (Cavendish, 2004). The camera operator (the grasshopper) is cruelly pushed aside by a married rival (the beetle, Mr. Zhuk) during a passionate advance on a beautiful cabaret singer (the dragonfly). With his ego pained, the grasshopper uses his camera to capture the seductive affair on film, highlighting a historically innovative example of cinéma vérité (Cavendish, 2004). As Philip Cavendish explains, "The subjects on screen testify to an early appreciation of the camera as an instrument of male

voyeurism to capture the female form on silver nitrate, which becomes the equivalent of seduction" (Cavendish, 2004). Starewicz has thus created a subverted parody of this notion by telling a story of insects in adult situations (Cavendish, 2004). The audience may find itself rooting for various insects during the film. There are also certain scenes that evoke a particularly sexualized environment, which naturally spark controversy and general discomfort in any medium. An example of such can be seen when the grasshopper is filming the sensual dance of the dragonfly; by filming from the camera's point of view through the keyhole, the audience immediately feels that they are violating private space. This adds to not only the voyeuristic exploits of the grasshopper, but also plays upon the curiosity people sometimes have with others' lives. It also shows sexual exploits taking place behind closed doors as if to say that such behaviour is not acceptable in society. Mr. Zhuk is also seen embracing the dragonfly in a suggestive manner, which portrays the advances of sexual behaviour in humans, whilst the fact that both the keyhole scenes are stained red may illicit the feelings of passion and danger.

Perhaps the most shocking aspect of *The Cameraman's Revenge* is that Starewicz himself may have intended the film to be a practical joke and never taken seriously. Some of Starewicz's biographers present him as an "accomplished entomologist and a full member of the Petersburg Academy of Sciences" (Tsivian, 1995), but feel as though this exaggerated reputation was potentially motivated by the filmmaker himself. According to Tsivian, there was an episode in Starewicz's career which seems to account for this, and indicates a deeper interest in problems of contemporary biology than one would expect of an insect collector:

Wladislaw Jewsiewicki's book - the fullest biography we have to date - quotes Starewicz remembering that as his films were distributed in Britain in 1912, they were advertised as featuring tamed insects presented by "a Russian entomologist Professor Loszkin"; the biographer admits that he failed to find this name among Russian scientists of the time (Tsivian, 1995).

It is unclear as to whether followers of Darwin and George Romanes were fooled by Starewicz's parody or not, but to know that his films were intended not for academic significance, but simply as parody can come as quite a shock to scholars. The tone of the film also suggests its satirical intent by use of playful music, and the exaggerated reactions of the insects (an example being when the picture is smashed over the beetle's head); this may link closely to the film's God-like tendencies where Starewicz pulls the strings on human

behaviour and implies that human experience is as frivolous as the life of an insect. The ethics and judgment put into forming a parody of mankind is difficult to ingest considering the visceral reaction insects can spawn in some. However, Statewicz's sense of satire can also be viewed more positively. One could argue that his parody of the human condition is not meant to insult but instead, for mankind to see that there is no hierarchy between the insect and animal kingdom. Furthermore, many people are fascinated by insects and, in this way, *The Cameraman's Revenge* can be viewed as a macabre celebration of insect life; the beauty that exists within the veneer exoskeletons. The arching theme may not be of infidelity or pretentious convictions but may, in fact, present the idea that humans, despite our notions of self, are equally, if not more so, flawed than the insect world—"The societies of ants and bees were seen as better societies than ours . . . whatever the gloomy geneticists were trying to prove, human nature had generational room for improvement" (Tsivian, 1995).

While *The Cameraman's Revenge* may be shocking, it is an important cinematic creation with depth and humour, presented in one grotesque yet beautiful package. It not only pioneered stop-motion animation and cinéma vérité, but it also made large strides towards revealing the admiration of insects and analysing what it is to be human. *The Cameraman's Revenge* is shock value with a purpose and, parody or not, it rightfully deserves its prestigious position within cinematic history.

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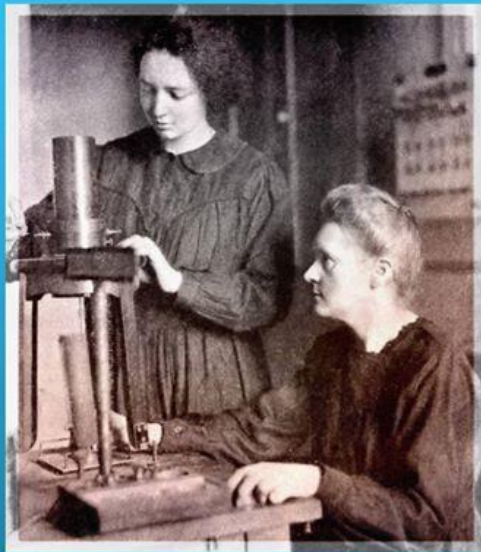
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# COMPETITION

Create a 300 word Flash Fiction, inspired by  
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## Marie Curie

Marieke Sjerps

---

Her notes are waiting.

She died for art.

Now her art wants you to do the same.

Navy blue scribblings, diagrams, cursive French. It's all waiting for you.

You love libraries, so why don't you go? Find the Bibliothèque nationale de France. Sign that liability waiver. Sign over your bag. Step into the protective gear. Step into the room. Now strip. You don't need protection. Run your bare fingers over the pages. They're happy you're here.

It doesn't even have to be now. That radiation will last a thousand years and more. It killed the first woman to win a Nobel prize, so it can definitely take you. Little vials in her pockets, gently glowing. She called them fairy lights. Will-o'-the-wisps, they wait patiently.

She's waiting too. The first woman to earn her tomb in the Panthéon lies in a lead-lined coffin. She radiates. Isn't that comforting? Marie wasn't scared. Dying and nearly blinded by cataracts, she didn't think the fairies had killed her. Imagine her in the sanatorium, seeing no danger. Her work had saved lives, how could it take hers?

Her daughter Irène died of leukaemia. She chased the fairies too, bathed in their glow, won a Nobel Prize like her mother. She died. Look at this picture; mother and daughter at work together. Nine years and thirty-one, that's what they had left. Radiation lasts for millennia. So Marie Curie's notes can wait. Her bones can wait. One day you'll dive into the archives. One day you'll find her in her leaden box. Maybe you'll win a golden medallion or two. Maybe your work will save millions. Maybe you'll take your life and transform it into art. You'll lie in your grave, not asleep; waiting, glowing.



## Towering Among Giants.

David Quinn

---

Others could stand upon the shoulders of Giants.  
But the Giants trampled upon our backs.  
They ground us into layers of human sediment beneath their feet.  
Our blood weeping down through layers of humanity.  
Our voices never reached as high as the shoulders of giants.  
Or they decided not to listen to our pleas.  
Please Let us stand.  
We are dying in droves.  
Is the opulent height you have reached worth breaking us?  
Breaking so many of us.  
Our pain uniting us, our bodies becoming a whole.  
Some of us, under a crueller nature, believed that we were nothing but dirt.  
Their feet pummelling our bodies.  
Their shoulders ever struggling to reach higher.  
We are among the first to believe.  
To believe we were something different than dirt.  
On our layer, we could see the sun.  
And thus began to believe we were seeds.  
I am among the first sprouts, the first of many. For I will tower among the giants.  
Providing protection in my roots.  
Encouraging more of us to grow.  
Allowing more of us to climb, ever taller.  
Eventually those giants will begin to lose their footing.  
And they will come to stand among those  
who were never dirt.  
And we will all stand.  
Not on the backs of others.  
But shoulder to shoulder.  
Growing faster than ever, on ground we laid together.

## Aims

The journal is dedicated to the publication of high-quality undergraduate and postgraduate writing and is committed to creating accessible and engaging content for a non-specialist student readership. ESTRO encourages and celebrates student research by providing students with valuable early experience of academic publishing and the peer review process. The journal is a multi-disciplinary journal, run by and for students of the University of Essex.

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Submissions should also include:

1. A cover letter giving the author's name, external email address, department, title of their paper and how they discovered the journal.
2. An abstract of about 150-250 words, outlining the content of their paper.
3. References in both the text and end- or footnotes should follow the Harvard style.\*
4. A bibliography should follow the main body of text, using the Harvard system.

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