

Farjana Islam

Logical semantics in a cross-cultural perspective

A Study of Intuitions about Reference in First-Generation Immigrants and Resident Populations

Master's thesis in English Linguistics and Language Acquisition

Supervisor: Giosué Baggio

Trondheim, May 2017

Norwegian University of Science and Technology

Faculty of Humanities

Department of Language and Literature



NTNU – Trondheim
Norwegian University of
Science and Technology

Abstract

Theories of reference in analytic philosophy are often constructed and tested by consulting one's own intuitions about the reference of terms in hypothetical situations. The reference of proper names has been a key area of disagreement among philosophers. Theories of reference are supposed to explain how names pick out their referents. Recent studies (e.g., Nisbett et al., 2001; Weinberg et al., 2001), however, have demonstrated a systematic variation in intuitions between Asians and Westerners, extending to reference (Machery et al., 2004). Taking this idea as a point of departure, this study is an attempt to replicate the findings of Machery et al., (2004), together with three other research objectives: (1) replicate their findings of the Gödel cases (Gödel and Jonah cases are originally used by Kripke, 1980); (2) test for differences in intuitions among participants from three distinct cultural groups (i.e. Norwegians residents, Bangladeshi residents, and Asian Immigrants in Norway), based on their geographical/cultural backgrounds and Immigration status; (3) resolve a significant difference in the current analysis concerning Jonah cases, which hold a different view of what should count as a response consistent the Causal point of view, compared to the previous study, and (4) test for differences in intuitions based on the Kripke's distinction of semantic reference and speaker's reference. Considering those objectives, an experiment was carried out in three groups of 25 participants (N=75 in total), and our findings provide a partial replication of Machery et al., (2004). We found a geographical/cultural variation in intuitions among participants with no statistical effect of immigration status. Specifically, the group of Norwegians appears split into two sub-groups, with approximately half of them showing a preference for the Causal-historical view of reference. For the two other groups of participants, namely, Bangladeshi residents, and Asian immigrants, the data, however, suggest different conclusions from Machery et al., (2004). By joining both cases together as a solution of the difference in Jonah cases, findings exhibit Asian participants including Immigrants, and rest of the Norwegians produced responses consistent with speaker's reference, instead of the Descriptive view. We, therefore, conclude that only part of Norwegians participants had referential intuitions, in accord with a broadly externalist account of semantic reference. In contrast, our Asian participants derive their intuitions in accord with speaker's reference.

Preface

Looking back at the autumn 2015 semester, I was challenged to choose a field within linguistics to which I will be specialized in. Within the entire curriculum, we had been introduced to several courses belonging to various sub-field of linguistics, from where I found the most fascinating and intriguing aspect of linguistic research relies upon the relation between the human mind and language. However, I, subsequently, chose something, which is a little different than that. Out of many topics explored by me, I found working on this project is quite feasible and interesting to work on. Experimental philosophy is an emerging field of research that has a great potential to explore and make use of new empirical data from different populations arouse my curiosity for new findings. The experiment I conducted on different populations from cross-cultural background gives me a better understanding of the role of intuitions in theorizing philosophical issues, such as theories of reference. I believe, my understanding regarding the philosophy of language will have great potential, if I continue my future research.

Being a student of language, working with this project has been a challenging experience for me, all the way from understanding the philosophical debate in the background of the study, to writing the thesis itself. I am indebted to my supervisor, Professor Giosué Baggio, for his commitment, positivity, guidance, hard work, and patience along the way. I am expressing my utmost gratitude to him for suggesting me the topic and helping me in shaping the project's final outcome with his valuable suggestions.

Working on such a long- term project like this, along with a five- year -old child was indeed a great challenge for me, without any support. Getting through this project not only teaches me how to be patient, as a mom, but also educates me how to plan and organize my time efficiently, as a student. I am expressing my gratitude to my daughter for accompanying me on this challenging journey of the last couple of years, and always being an inspiration for me.

Finally, I am grateful to my partner for helping me on gathering data from Bangladesh, and to all the participants who agreed to be part of the thesis with their valuable time and participation.

Farjana Islam

Trondheim, May 2017.

Contents

Abstract	i
Preface	iii
Contents	v
List of figures	vii
1. Introduction.....	1
1.1. From ‘armchair intuitions’ to experimental philosophy.....	1
1.2 Sense, reference and proper names	2
1.3. Frege on sense and reference.....	3
1.3.1. How is the reference of proper names fixed?	4
1.4. Definite descriptions	5
1.4.1. Russell, On Denoting.....	5
1.4.2. Criticism	8
1.5. Rigid designators	9
1.5.1. Criticism	13
1.6. Speaker’s reference	14
1.7. Experiments on proper names.....	16
1.8. The present study	22
2. Methods	25
2.1 Materials	25
2.2. Participants	26
2.3. Procedure.....	27
2.4. Data analysis	27
3. Results	29
4. Discussion	33
5. Conclusion.....	43
References.....	45
Appendix	49

List of figures

Figure 1. Summary of results in the G-cases and J-cases considered separately30

Figure 2. Summary of results in the G-cases and J-cases considered jointly.....31

1. Introduction

The study we are going to present here is on experimental philosophy. We attempt to replicate the findings of Machery et al., (2004). Linguists and philosophers occasionally consult experts' intuitions (often their own) as one of the standard methods to gather data on the relevant philosophical issues, without necessarily considering folk intuitions, too. Recent studies (e.g., Nisbett et al., 2001) have shown systematic cognitive differences between Westerners and non-westerners, extending to intuitions about philosophical cases (Weinberg et al., 2001) such as theories of reference (Machery et al., 2004). Considering folk intuitions, Machery et al., (2004) predicted and subsequently found differences in people's referential intuitions across cultures, and even within one culture. Using the Gödel and Jonah cases (see Appendix; details below) from Kripke (1980), Machery et al. (2004) demonstrated East Asians (EAs) differ significantly from Westerners (Ws) in terms of their referential intuitions about the Gödel cases, but less so in the Jonah cases. After taking into account the findings of Machery et al., (2004), we considered three groups of participants: Asian (participants living in Bangladesh), Asian Immigrants (living in Trondheim), and Western (Norwegians living in Trondheim). In the present study, we expect to find differences in folk's intuitive judgments among participants groups concerning the use proper names to refer to appropriate referents across cultures, and within a culture. Our aim in the following sections is to briefly present alternative theories of reference, which explain how appropriate referents for natural language expressions are picked out.

1.1. From 'armchair intuitions' to experimental philosophy

Appealing to intuitions is common practice and standard methodology in linguistics and philosophy. Intuitions became a trend in philosophy around the mid-1960's as an outcome of the popularity of Chomsky's (1965) linguistic theory and methodology (Hintikka, 1999). Before that, philosophers relied on introspective judgments about ongoing mental states or processes. Although introspection had already been discarded as methodologically inadequate by psychologists in the early twentieth century, it re-emerged in the context of early generative grammar and its reaction to behaviorism (Schwitzgebel, 2014). Other empirical methods in linguistics are corpora, experiments, and observations etc., which produce very different types of linguistic data. However, according to some authors, intuitions still play a major role in linguistics and philosophy.

The way intuitions are taken into consideration in linguistics is not the same as in philosophy (Hintikka, 1999). Intuitions in linguistics can be grammaticality judgments of native speakers of a particular language, as well as judgments of synonymy, entailment etc. In contrast, intuition in philosophy can involve judgments about truth, reference, knowledge, belief etc., as well as about fictive scenarios or ‘thought experiments’, which are seldom used in linguistics. Some philosophers are in favor of experts’ intuitions or ‘armchair intuitions’ as a reliable source of information (Devitt, 1994, 1996; Devitt & Sterelny, 1999). To preclude any sort of partiality in intuitive judgments, some philosophers argue that considering layman’s judgments, as opposed to experts’ judgments, can also shed light on how intuitions contribute to philosophical argumentations.

Before considering the debate surrounding theories of reference in analytic philosophy, it is worth mentioning what the analytic tradition is all about. Analytic philosophy is primarily connected to a methodology in which a great deal of emphasis is attributed to conceptual analysis of and argumentative clarity on the relevant philosophical issues (Beaney, 2014). Analytic philosophers are often concerned with linguistic structure, and with how language is related to the world. At some stage in the development of the analytic tradition, philosophers customarily analyzed language by breaking down its structure into simpler components. The logical form represents the linguistic structure in a proposition by using symbols in a logical system (Beaney, 2014). Hence, bringing logic into philosophy, and thinking philosophical questions in a new way, revolutionized philosophy with Frege and Russell, among others.

1.2 Sense, reference and proper names

Thinking about expressions that refer to things in the world, we generally classify them into two categories: (1) general terms, and (2) singular terms. General terms refer to individuals or sets, such as a chair, computers, a man, red and so on. Besides, singular terms consist of proper names (e.g. ‘Mark Twain’, ‘Rome’, ‘London’ etc.), and definite descriptions (e.g. ‘The capital city of Norway’, ‘the teacher of Alexander the Great’ etc.) (Reimer & Michaelson, 2014). As a matter of fact, singular terms pick out an individual entity in an appropriate context. Certain questions about singular terms, however, lead to many puzzles in the philosophy of language: How do singular terms function; how do we define the relationship between an object and a linguistic expression that represents the object; and how do they acquire meaning?

Natural language is ambiguous in different respects, and some ambiguity remains even considering its underlying logical structure. In a logically perfect language, every sign (e.g., a proper name) designates a referent, but that is not necessarily the case in a natural language (Frege, 1892/1948). While explaining such ambiguities in relation to how language works, certain cases concerning identity statements, substitutability, non-referring terms and negative existentials involve much debate in the philosophy of language. To address such philosophical concerns, Frege introduces the idea of a sense, which is distinct from the notion of a reference of a sign (i.e. proper name, word, a combination of words, or other expressions). Reference is a relation between objects and names or signs of objects. However, a sense, being considered as part of a meaning of a sign, is a 'mode of presentation' that forms a meaning of an expression together with its reference (Frege, 1892/1948).

1.3. Frege on sense and reference

Frege is concerned with the question of how an object, being designated by a sign, is related to the meaning of the sign or expression. His notion of sense explains further how the change in a sense of an expression may change the meaning of an expression (Frege, 1892/1948).

As mentioned earlier, reference is a relation between a linguistic expression and an object. An example of this can be given in the following manner: 'Donald Trump is the 45th president of the United States of America'. Here, in this example, a sort of representational token, such as the very name 'Donald Trump' is used to refer to that particular individual. Some terms have objects or references to which they can refer, however, others may not have referents.

Besides, expressions that are co-referential can convey a different sense (Frege, 1892/1948). Via a sense or a mode of presentation in expressions, one can establish the denotation of terms (Frege, 1892/1948). The sense of a term accounts for its cognitive significance. An example of this can be: 'Mark Twain' and 'Samuel Clemens' refer to the same individual but there is an obvious difference in the way this referent is presented, given that different expressions, each with its own sense, are used. While both denote the same individual, one may associate two different meanings with these two different linguistic expressions. The idea is that someone who has heard about 'Mark Twain' may not know who 'Samuel Clemens' is. Thus, these entities represent different images concerning the names in one's mind (Zalta, 2016). Nevertheless, terms like 'Odysseus'

‘unicorn’, ‘tooth fairy’, etc., have truth value gaps to refer to anything that exists in the world, but they still have a sense of their own (Frege, 1892/1948).

Now, according to Frege, these distinctive notions of sense and reference can explain the cognitive significance of terms in identity statements. Suppose, the forms of identity statements of two propositions are $a=a$, and $a=b$. By analyzing the form of the expression $a=a$, what we get to know is something obvious, primarily uninformative, and has a priori truth. In contrast, a proposition like $a=b$ may often contain very valuable extensions of our knowledge (Frege, 1892/1948). If identity is a relation between an object and itself then the propositions ‘Hesperus=Phosphorus’, and ‘Hesperus=Hesperus’ will assert exactly the same relations. The fact, therefore, is how the former is informative and the latter is not, can be explained through the notion of a sense. Hesperus is the planetary body seen in the evening, and phosphorus, being the same object, can be seen in the morning. Here, the relation can be explained by different senses or modes of presentation, associated with the proper names, even though they have the same referent. These modes of presentation or different ways of identifying the same entity make them significantly different in terms of their cognitive value or meaning. This was Frege’s solution to the problem of the semantic of identity statements (Frege, 1892/1948).

1.3.1. How is the reference of proper names fixed?

All grammatically well-formed linguistic expressions representing proper names have senses, along with references (Frege, 1892/1948). Sense can be defined as something that exists outside of an individual’s mind. Anyone can share the same sense, even though different associations of concepts of terms are possible. A concept exists inside the mind (Frege, 1892/1948). What Frege was looking for is not just something that varies among individuals; rather, it is the different way of picking up the same object and that constitutes the meaning of the term. By virtue of the meaning of the term, its sense is able to pick out the reference. An individual, for instance, may have different associations with the color red. However, the sense of red remains constant for everyone. Thus, understanding the sense of red determines its meaning; subsequently, it picks out the referent in an appropriate context. Yet, red has different linguistic expressions in different languages, but the sense remains the same. Hence, understanding the meaning of proper names requires an understanding of its senses, which in turn fixes its referents (Frege, 1892/1948).

The above discussion focused on how the reference of proper names is fixed. However, in the construction involving propositional attitudes or propositions in indirect referential contexts, the fixing of reference does not function in a similar way. It changes its truth value with a substitution even by a different expression that has the same referent. Substitution between terms with different cognitive values or senses is naturally problematic, apart from that; considering a secondary referent can fill the gap (Frege, 1892/1948). When dealing with an indirect discourse, such as constructions containing ‘thinks that’, ‘believe that’ etc., the sense of expressions will determine the truth value rather than their customary referents (Frege, 1892/1948). An example of this can be: John believes that the morning star is the evening star is true, and similarly, the same proposition with a substitution, ‘John believes that the morning star is Venus’ does not convey the same truth value. In this case, inside the construction, the expression refers not to their usual referent, but to their own sense. When it is said that John believes that ‘the evening star is Venus’, the name ‘evening star’ is used to specify the content of John’s thought. Frege arguably suggests that it is the sense what fixes the referent.

1.4. Definite descriptions

To continue with Frege, two distinctive aspects of denoting phrase are meaning or sense and denotation or reference. The notion of sense, however, is not sufficient to explain how proper names fix their references and meanings in natural languages. The Theory of Definite description provides a further analysis of how definite descriptions work and extends it to proper names. The primary claim of the Theory of Definite description is that names are the abbreviated definite descriptions. According to Russell, this is the only way to explain what names mean (Russell, 1905).

1.4.1. Russell, On Denoting

According to the Theory of Definite description, names and descriptions are incomplete symbols. They do not have meanings of their own. The underlying forms of the denoting phrases allow them to denote only in an appropriate context. The structure of the underlying form can be interpreted in a logical quantificational formula. These denoting phrases are notably classified into two main categories, according to Russell. One can be a definite description, while the other is an indefinite description. The following section will provide insights into how Russell’s theory solves the ambiguities in relation to definite descriptions and proper names.

One gets to know about the world by maintaining a direct link between mind and the world. As we do not necessarily have knowledge by acquaintance of most of the objects in the universe, we can denote them indirectly through the mediation of thought (Russell, 1905). Descriptions are one of the plausible ways in doing this. An example of this can be cited from Russell's own examples: our thought about other people's minds that we are never acquainted with directly can only be perceived through denotation (Russell, 1905).

In order to denote an object, one must consider the underlying logical structure of the phrase, which is one of the main ideas in Russell's theory. Grammatical form differs significantly from the logical form of a proposition. Grammatical form picks out an object and predicates a property to it. Logical form is what really explains how an expression works. By developing a theory using logical forms, it is possible to explain logically how denotation works in a proposition. Russell (1905) implements propositional functions, which is a modified version of Frege's concept, as a fundamental concept in his theory. According to his theory, 'the most primitive of denoting phrases' (i.e. everything, nothing, something) are the following: C (everything) means "C (x) is always true"; C (nothing) means "C (x) is false' is always true"; C (something) means "It is false that 'C (x) is false' is always true "(Russell, 1905, p.480). Here, C(x) represents a proposition in which x is a constituent and a variable. For example, 'I met a man'; the interpretation of the logical form of the proposition can be: 'I met x, x is human and x is not always false' (Russell, 1905, p.481). This proposition is true no matter which particular man an individual talks about. X stands for any man in this analysis, not referring to a particular man. This is how all phrases are supposed to function in Russell's theory.

Denoting phrases have no meaning in isolation (Russell, 1905). Meaning attribution is only possible in a proposition, where the phrase is contained. Otherwise, denoting phrases are just incomplete symbols (Russell, 1905). One can also analyze definite descriptions by asserting existence and uniqueness properties of the objects involved in descriptions. These types of phrases, containing a definite description, express the form, 'The x'. Consider the following proposition: 'The F is G'. One cannot use quantifiers (for all x, some x) in the case of 'The x'; it has to be understood as a unit. It implies that the proposition is true if there is exactly one F; any F is G; and false otherwise. An example of this can be seen in the following sentence: 'The father of Charles II was executed' (Russell, 1905, p.481). Here, 'the father of Charles II' has to be

understood as a unit. The property of uniqueness will define the meaning of the phrase in an appropriate context.

The foregoing proposition is ambiguous between two readings: (1) the father of Charles II was executed, and (2) the man who was executed was the father of Charles II. These ambiguities between the two readings can be resolved by considering the differences of uniqueness property attributed to the phrase of definite description. The first reading implies that an existence and uniqueness property is attributed to the person who is 'the father of Charles II', providing a meaning which is true in this context. The other reading refers uniquely to a person who may not be the father of Charles the second. As both meanings are not equivalent, 'The F' cannot work as a constituent. Substituting one for the other will alter the meaning. Here, using the strict sense of 'The' involves a uniqueness property that can only give the correct meaning of the proposition, 'The father of Charles II' was executed'.

According to Leibniz's law, cited by Russell (1905), substitutability is possible between two terms, namely ('a', 'b'), with identical referents, by preserving the truth value. However, substitutability can change the truth value: Frege explains this notion with his concept of sense. Yet, Russell demonstrates how the problem arises from different kinds of scopes. Consider this example: 'George the IV wished to know whether Scott was the author of Waverley' (Russell, 1905, p.485). This sentence is ambiguous inside the scope of 'wished to know'. Two possible readings are the following: (1) George the IV wished to know whether Scott was the author of Waverley. This implies George the IV wished to know whether: someone wrote Waverley; only one person did, and that person was Scott. This is true and identical with Scott in this context. Here, 'the author of Waverley' has the narrow scope, which is the secondary one. Another possible reading is: (2) Scott was the author of Waverley, and George IV wished to know that person is Scott. The definite description has a primary and a wide scope. Depending on the context, the meanings are varied, when they are understood from two different scopes. Hence, understanding the meaning of the phrase of definite description depends on a proper understanding of underlying structures. (Russell, 1905).

Again, Frege mentioned, reference is what determines the truth value of a proposition (Frege, 1892/1948). Yet, if a referent does not exist, no truth value of the proposition remains (Russell, 1905). It is simply false (Russell, 1905). An example of this is 'the present king of France is

bald'. According to Frege, the sentence is neither true nor false, but 'The present king of France' does have a sense. Nevertheless, the law of Excluded Middle (Russell, 1905) implies that every meaningful declarative sentence is either true or false; there is no truth value gap. So, a proposition with a truth value gap cannot be meaningful (Russell, 1905). As Russell argued, a negation of a proposition with an empty term does not even mean to be true. One must be careful with the scope of the negation in a proposition like this: 'the present king of France is not bald'. It certainly means there is exactly one king of France and the king is not bald. Negating the whole statement, not just the baldness, can only render the correct analysis: 'it is not the case that the present king of France is bald' (Russell, 1905, p.490). These are Russell's solutions of empty terms and negative existentialism.

Russell's theory, specifically, is about definite descriptions. He demonstrates how definite descriptions work in a proposition and how its analysis is extended to proper names. According to the Theory of Definite descriptions, names are the abbreviation of descriptions. This is how a name can give a meaning to an object it refers to. This is intuitively plausible because if somebody does not know what a particular object is, we may introduce the object with descriptions even if we are never acquainted with that object directly. One can give names of the fictional characters in the same way, according to Russell. We only need to specify, for instance, who 'Sherlock Holmes' is, or what the name 'Sherlock Holmes' means through a description. This is the only plausible way, as the theory suggests, defining a name synonymously with a description. It also provides simple solutions to known puzzles, and gives a reasonable analysis of fictional characters. (Russell, 1905).

1.4.2. Criticism

To sum up, descriptivism generally entails the sense of a designator to be its meaning (Frege, 1892/1948). The definite descriptions are synonymous with names. The meaning of a name is given by a complex propositional function (the definite description) which uniquely picks out a referent (or a set of referents) (Russell, 1905). Indeed, the Theory of Definite description provides explanations of the problems in relation to the identity statement, non-referring terms, among others. The whole idea of definite description concerning the theory of names, however, has obvious problems, according to Kripke (Kripke, 1980). Kripke argued it is intuitively evident that more than one description can be associated with a single name. For example, a proper name, Aristotle, may associate descriptions differently: 'The last great philosopher of antiquity,' 'the

author of *Metaphysics*’, or ‘the most famous student of Plato’. It seems impossible to decide which description uniquely gives the meaning of the name, Aristotle. It is also highly problematic to consider names synonymously with any particular definite description (Kripke, 1980). Kripke arguably hypothesizes that a description may fix the reference of a name but cannot give the meaning of the name (Kripke, 1980). If the meaning of Aristotle includes ‘the last great philosopher of antiquity’, then the proposition ‘Aristotle is the last great philosopher of antiquity’ would be a mere tautology. Yet, the statement is not tautological, but surely informative (Kripke, 1980).

Another fundamental difficulty arises when we consider descriptions as a determinant of fixing a reference of a name. Several descriptive associations of a single name may be found differently in distinct possible worlds (Kripke, 1980). If we consider, for example, Aristotle, as someone who has not gone into philosophy, or we could have failed to recognize him as a teacher of Alexander the Great in another possible world, then according to the descriptivism, we would no longer be talking about Aristotle. Yet, this concept leads to an absolutely misguided theory of naming, as Kripke (1980) mentioned.

Moreover, if we are somehow unable to describe an object due to our lack of knowledge in any possible world, this does not disconfirm the existence of that object. This idea seems to be just an opposite of the Theory of Definite description. For example, ‘Homer’, being an author of the ‘*Iliad* and the *Odyssey*’ in the actual world, can be found in another possible world where he might not be the author of the same piece of work (Jerkert, 2012). His name still refers to him even if he does not satisfy any description Kripke (1980). Kripke (1980) stipulates, only by rigidifying the names across the worlds, names can refer to the same object in every possible world.

1.5. Rigid designators

The rigid designator is a technical concept in the philosophy of language, which has a great influence throughout philosophy. The far-reaching consequences of it are not only metaphysical but also epistemological (Laporte, 2016). The rigidity of a statement’s designator will determine if the particular statement is necessarily true, or false. Sometimes, this metaphysical status of it is not in agreement with its epistemological status, namely, being a posteriori, or a priori (Laporte,

2016). Much of the philosophical discussions revolving around Kripke's 'Naming and Necessity' are directly or indirectly framed around the difference of rigidity.

What it generally implies by a rigid designator is that it designates an object rigidly in every possible world in which the object exists (Kripke, 1980). The object does not designate anything at all if it is not found in those worlds. Kripke stipulates proper names are rigid designator, but descriptions are not (Kripke, 1980). In an identity statement, for example, Hesperus and Phosphorus are the proper names for the same object, namely, Venus, and they are considered as rigid in all possible worlds. This is because, if we consider 'Hesperus is Phosphorus' is identical, and true, then Venus is identical with Venus and true in all possible worlds. Yet, a statement with a description, such as 'Hesperus is the brightest non-lunar object in the evening sky' is true, but not rigid (Laporte, 2016). Hesperus might have been less luminous or obscured by cosmic dust in another possibility, or some other object can satisfy the description, say, Mars is the brightest one (Laporte, 2016). Consequently, the description designates Mars instead of Hesperus. This is how a nonrigid description explains why this identity statement is not necessarily true. Here, necessity, unlike a contingent truth, is having a property of being true in every possible situation.

The stipulation of possible worlds is important to consider here. What Kripke means by a possible world is not something as a real world, or a distant world (Kripke, 1980); rather, it is another possibility in which the theory of definite description is supposed to handle how descriptions fix the references. The Theory of Definite description, unfortunately, fails to refer to the same object across the worlds; instead, it picks out different individuals. In this case, using proper names as a rigid designator avoids this kind of problem by picking out the same object in every possibility wherein they exist. The rigid designator does not have any causal element in itself because possible worlds are not real but stipulated (Laporte, 2016).

Certain types of truth can be employed to explain the theory of rigid designator. Traditionally, they are thought to be synonymous or at least co-extensive: i) the a priori, analytic, necessary, and ii) the a posteriori, synthetic, contingent truth. Yet, Kripke stipulates that they are subtly related, but conceptually distinct. In a philosophical tradition, 'necessity' and 'priority' are thought to be co-extensive in the following way: anything that is necessarily true in all possible worlds can be known as a priori; alternatively, a priori truth, which can be known regardless of our knowledge of the world, may be considered as necessary (Kripke, 1980). However, these

connections can be systematically broken (Kripke, 1980). Kripke argues that they belong to two different domains. One is a notion of metaphysics, and the other is epistemology. A priori truth can coexist with a contingent fact, and other combination of necessary a posteriori truths can also be found. Again, an analytic statement is true in virtue of the meanings of the words alone. Analytic truths are both a priori and necessary (Kripke, 1980).

A proper understanding of rigidity is important to reveal the combinations of a contingent a priori, and a necessary a posteriori truth. An example of this includes a meter stick to define the length of one meter (Kripke, 1980). Let us imagine a stick of certain length, namely, 'stick S' at certain time 't₀', in a proposition like this: 'the length of stick S at time t₀ is one meter' (Kripke, 1980, p.55). An intuitive difference between the phrases, 'the length of stick S' and 'one meter' is evident here. The former does not designate anything rigidly across the worlds, and the later does. Among all possible situations, 'one meter', being a knowable a priori, designates 'the length of stick S' in the actual world to fix the reference. In contrary, 'the length of stick S' has a contingent property, which may designate something as longer or shorter, depending on various condition applied to it (Kipke, 1980). We can say that applying a given quantity of heat may have allowed it to expand to such and such length. So, the mentioned proposition conveys an example of a contingent a priori truth (Kipke, 1980). Another pair of the combination is a necessary a posteriori truth. An example of this is 'Hesperus is Phosphorus', which is a necessary truth because the proper names designate the same object rigidly across the worlds (discussed above), but, it can only be knowable empirically. (Kripke, 1980).

Looking back into the philosophical tradition, Kripke mentioned, many philosophers stipulate how the theory of name works. John Stuart Mill says, "Names have denotation, but not connotation" (Kripke, 1980, p.26). In other words, names have no meaning apart from fixing its reference. Against his view, descriptivism suggests that proper names have senses or meaning, and they are shorthand for descriptions. Though the Theory of Definite description explains different ambiguity relations in terms of proper names, it is eventually rejected by the cluster-concept theory of names, which determines the referents of proper names through a cluster or a family of descriptions. According to this theory, Wittgenstein, Searle, & Strawson explained, the referent of a proper name is whatever that satisfies most of the descriptions of an object (Kripke, 1980). This is how a definite description determines a reference, as well as, a meaning of a name.

However, Kripke argues this is not a probable way of understanding meanings of names (Kripke, 1980).

Kripke attacks the Quinean position, as well as, the descriptivism while spelling out the de re and de dicto modality. To clarify the point further, it is important to distinguish between de re and de dicto modality. Quine's familiar example concerning whether number 9 is necessarily odd or a similar example concerning 'Nixon' can also be given. The Quinean claim is that the number 9 or 'Nixon' has essential/accidental properties (p.s. essential properties are those without which the object would not be what it is) only relative to a description. According to his view, the modal claims about an object must be mediated by a description (Kripke, 1980).

However, if we substitute number 9 with a description, say, 'the number of planets', the proposition appears as follows: 'the number of planets is necessarily odd' (Kripke, 1980, p.39). The statement can mean two things depending on the interpretation of de re, and de dicto modality. De dicto reading asserts that 'the number of planet is odd' is necessarily true, which is false (Kripke, 1980). The number of planets might be eight or more than nine or anything. The de re interpretation is: the actual number of the planets (which is nine) has a property of necessary oddness. It (the oddness of number 9) appears to be necessarily true in all possible worlds (Kripke, 1980). The same explanation is applicable to 'Nixon', a man, who rigidly designates 'Nixon' as 'the man who won the election in 1968', which is the de re reading and is true in every counterfactual situation. The description, 'a man who won the election' can only give a de dicto reading; however, will not pick out the same individual in every possible situation. The idea is that names, functioning modally, will pick out the same object in all possible worlds. In fact, it is an ordinary intuition of layman who can point out to 'Nixon' as a man who might have lost. The individual- namely, 'the man' is independent of any description, and only contingently won the election, according to the 'Kripkean' explanation. Hence, by switching to this preferable theory of names, namely, the rigid designator, we can use the kind of de re view of modality that gives the right explanation (Kripke, 1980).

Two other influential arguments oppose the Descriptive view of reference. The first one argues against the idea that the uniquely identifying descriptions associated with the proper names determine the reference. In considering proper names, such as, 'Cicero' or 'Richard Feynman', one may not know any uniquely identifying descriptions generally ascribed to them (Kripke,

1980). In this case, according to the Descriptive view, an individual has no referent because one does not uniquely satisfy any description. It is certainly implausible as a proper theory of naming. (See the G-case). Furthermore, one may associate a description that is completely wrong to that individual or object to pick out an appropriate referent. Suppose, for 'Albert Einstein', many people evidently think, he is 'the inventor of atomic bomb'. The description, however, they use, refers to 'Oppenheimer' to whom the description truly satisfies (Kripke, 1980). What the descriptivists suggest, 'Einstein is the inventor of the atomic bomb' is false. The name will have no referent; according to this view (see the Jonah case).

Eventually, Kripke (1980) provides an alternative picture of how a reference of a proper name is determined. Fixing a reference in his view, namely, the Causal-historical view of reference involves a kind of initial baptism, where the name of an object is given through an ostension or a description in a sort of social ceremony. When a name is passed through from one link to another until the last user, in a form of a chain, the present user of the name is causally related to the previous users. As a result of that, one gets to learn about the name from a previous user, who learns it from someone else, who, in turn, successively, may learn it from the person who first used it with the same reference. This is how a reference is determined and is maintained all the way to the present users in a linguistic community. We can say when we refer to 'Richard Feynman', the very name comes to us as a sequence of links, and everybody down the line uses the name 'Feynman' in the same way, even though one may not be able to identify him uniquely. One can still refer to him, without knowing exactly from whom an individual has ever heard of 'Feynman'. General terms like 'gold', 'water', etc., function in a similar way (Kripke, 1980).

1.5.1. Criticism

Several potential issues have been raised and are needed to be addressed in the framework of the Causal-historical view of reference. It is not possible to go into details here. Yet, it is important to trace some of the facts concerning the theory of reference of proper names. Firstly, there appears to be a difficulty in this framework in referring to a non-referring term. An example of this can be 'Father Christmas', who does not refer to any real person in the actual world unless it holds the reference of 'Saint Nicholas' (Jerkert, 2012). In this case, how the Causal-historical view of reference and rigidity solve these non-referential issues in the theory of reference is not clear.

Secondly, Kripke was critical with regard to the idea of uniquely identifying descriptions associated with the proper names, and he did not rigidify descriptions in his theory of naming. One can assume that he did not consider description as uniquely identifying approach in his initial baptism. In this respect, there is a strong possibility of a broken chain somewhere in the middle, when a name gets transferred from one person to another or one generation to another (Jerkert, 2012). An example of this can be seen in the proper names used in the J -cases of Machery et al. (2004). In the J-cases, the names get changed from a generation to another, and the notion of rigidity cannot explain how the names that are supposed to maintain the same causal chain historically over the time change their referents. If we maintain a strict sense of rigidity, references are not supposed to be changed in all possibilities.

Thirdly, this notion of changing the reference or the ineffectiveness of rigidity in some cases can also be reflected in the proper names used in real life. An example of this is Gareth Evan's instance of the proper name, 'Madagascar' (Jerkert, 2012). He identified the proper name, 'Madagascar', which changed its meaning with Marco Polo. Before that, the name referred to a part of the mainland in Africa; however, after Marco Polo had introduced the name, due to some misunderstanding that Marco polo had, the name was changed and is still being used as a name of an island (Jerkert, 2012).

1.6. Speaker's reference

Donnellan's view of the attributive and referential use of definite descriptions is relevant in explaining the notion of speaker's reference. When a speaker uses a definite description to specify the object that he wants to talk about, and says something about it; it is the referential use of definite description (Kripke, 1977). Attributive use is determined when a speaker's use of a description says something about whomever or whatever satisfies the description (Kripke, 1977).

As Kripke identified, a speaker may, nonetheless, use a definite description attributively in both referential and attributive cases, irrespective of the speaker's perception of an individual or object to fit into that description (Kripke, 1977). Donnellan differentiates attributive cases from the referential ones by an intuitive mark of an attributive use, 'whoever he is'. In both cases, however, an intuitive mark of the attributive use 'whoever he is' can be used in descriptions to refer to a name that a speaker wants to talk about (Kripke, 1977). This approach is misleading, according to Kripke (1977). The basic idea he postulates is that understanding these distinctions

pragmatically by using the speaker's intention would be a substantive one. Kripke was interested in certain methodological issues in philosophy of language, in which he presented a convincing framework for thinking about meaning and reference by using the work of Grice (Kripke, 1977). Kripke draws a basic Gricean distinction between what words can mean and what speakers mean by using those words. What words mean in a language is semantical and is, therefore, determined by the convention of our language. Words can express meanings by using this convention, along with speaker's intentions in various contextual grounds (Kripke, 1977).

Kripke stipulates what speaker's meaning is, however, might be something different. Its meaning depends on the various further specific intentions of a speaker, together with several general principles (i.e. Grice's conversational maxim) applicable to all human languages (Kripke, 1977). By using the following words, for example, 'the cops are around the corner', what it generally means is clear: 'the police are around the corner'. Yet, the speaker may have meant something different: 'we can't wait around collecting any more loot, let's split!' (Kripke, 1977, p.262). This is not the meaning of the words on that occasion, but this is what the speaker may mean in the same context.

Semantic reference and speaker's reference are the special cases of Gricean notion mentioned above. The particular convention of an idiolect determines the semantic referent of a term, together with the speaker's intentions. In particular, speakers have general intentions to designate such-and-such with a term 't'. On the other hand, a speaker's referent of a term is to be the object that the speaker wants to talk about, on a given occasion. The speaker's referent of a term may or may not be a semantic referent of it (Kripke, 1977).

An example of this can be given as follows: two people, from a distance, were watching Smith raking the leaves. Yet, both of them were addressing 'Smith' as 'John' in their brief conversation: 'What John is doing?', 'Raking the leaves'. Again, both of them were referring to 'Smith' as 'John', and one of them said something true about 'John' ('Smith'), even though they were not the same person (Kripke, 1977, p.263). We can address the fact by the above-mentioned distinction. Referring to 'John' as 'Smith' on that occasion reflects the speaker's specific intention to pick out an entity that they want to talk about; it is the speaker's reference. On the other hand, the semantic reference is the linguistic property, by which a name, 'John' refers to 'John' (Kripke, 1977).

In a simple case, a specific intention is simply referred to as general intention or semantic referent: 'John', the name, refers to 'John'. However, in the complex case, a specific intention is distinct from a general intention; they may coincide if the speaker's belief is correct, but it is not necessary. Hence, the expression, 'the man over there' may mean 'Smith', not 'John'. Kripke hypothesizes the simple case is Donnellan's attributive case, and complex one is referential (Kripke, 1977).

1.7. Experiments on proper names

Based on the aforementioned discussion, it is evident that two central views regarding the theory of reference, namely, the Descriptive view of reference and the Causal-historical view of reference have been prevalent in the field of analytic philosophy. Consulting people's intuitions about the reference of terms in actual and hypothetical situations is one of the possible ways of assessing theories of reference. The findings from Machery et al., (2004) reported a 'prima facie' evidence regarding variation in intuitions across populations from distinct cultural backgrounds and, subsequently, became one of the most widely discussed works in experimental philosophy. The variation in intuitions it yields in cross-cultural semantics poses a significant challenge to what a correct theory of reference is believed to stand on. A question of appropriateness in the methodology of philosophy also remains salient in the findings, confirming that East Asians are likely to have intuitions aligned with the Descriptivist view and Western participants reflect their intuitions in accordance with the Causal-historical view of reference (Machery et al., 2004).

As mentioned earlier, the inspiration for the experiment came from another study within the field of cultural psychology (Nisbett et al. 2001). Following the findings of Nisbett et al., (2001), two dominant styles of thought were distinguished between two groups of participants: the 'holistic' style of thought, which prevails among East Asians (EAs), and the 'analytic' style of thought, which remains dominant among Westerners (Ws). While 'holistic' style of thought is considered to be aligned with socially oriented ones, the 'analytic' one is regarded as 'individualistic (Nisbett et al. 2001). These categorizations are controversial, according to some critics (Marti & Devitt, 2011). However, the differences in referential intuitions of EAs and Ws about Gödel cases (G-cases) and Jonah cases (J-cases) are predicted in the light of these findings.

By conducting an experiment on the undergraduates of Rutgers and Hong Kong, Machery et al., (2004) yield evidence regarding the variation of intuitions about the references of proper names.

They confirmed these predictions for G-cases, but not for the J-cases. To test the hypothesis regarding the Descriptive and Causal-historical view of reference, Machery et al.'s (2004) design of the experiment and the hypotheses of these two prominent views can be reformulated as follows:

D1

Competent speakers associate a description with each proper name that satisfies the description. This description determines a set of properties in relation to the name to fix its referent (p.2).

D2

An object is the referent of a proper name if and only if it uniquely or best satisfies the description associated with a property or set of properties of the object. If the description is not satisfied at all or if many individuals satisfy it, the name does not refer (p.2).

In contrast, the causal-historical view of reference has two distinctive features that do not match the characteristics involved in the descriptive view of reference about proper names (p.3):

C1

A name is introduced by a description into a linguistic community, where a kind of social baptism takes place in order to fix the referent of the name. The name continues to refer to that individual as long as its usage is connected to that individual via a causal chain of successive users: every user of the name acquired it from another user, who acquired it in turn from someone else, and so on, up to the first user who introduced the name to refer to a specific individual.

C2

Speakers may associate descriptions with names. After a name is introduced, the associated description does not play any role in the fixation of the referent. The referent may entirely fail to satisfy the description.

Hence, an evaluation of the two separate hypotheses (i.e. the Descriptive, and Causal-historical views) requires a test case, where a proper name is associated with a definite description, and, as opposed to the descriptivism, the present use of the proper name is linked with a causal chain to

someone who the name was originally attributed to. Considering these ideas, if a name is assigned to refer to someone who satisfies the descriptions or to no one (if there is no one who satisfies the descriptions or many individuals satisfy the description, the name does not refer), then the hypothesis supports the Descriptive view of reference. On the other hand, regardless of the descriptions, if the name refers back to its original bearer, who is linked to the current use of the name in the actual and hypothetical situations, then it is a representation of the Causal-historical view of reference.

Machery et al., (2004) formulated the experiment that consisted of two cases, which were taken from Kripke's (1980) original Gödel and Jonah cases for the participants who belong to Western culture. They created two versions of these cases by adopting Chinese names that were familiar to the participants from the Asian background. In the Gödel case, Kripke introduced a proper name, Gödel, who was causally related to the name Gödel and associated with the description, 'the discoverer of incompleteness of theorem', which was not satisfied by the name Gödel but was uniquely satisfied by another person named Schmidt (see Appendix).

The Jonah cases used in Machery et al., (2004) differed significantly from the original Jonah case stipulated by Kripke. The original Jonah case (Kripke, 1980) involved a person named 'Jonah', who was causally related to the name 'Jonah' that was introduced at the beginning of the story; and the name did not satisfy any of the descriptions generally attributed to him. According to the Descriptive theory, 'Jonah' does not exist. Nevertheless, the Kripkean theory of reference involved the name within a causal and historical relation to the present use. As a matter of fact, Machery et al., (2004) designed an experiment wherein they introduced a name, (e.g. Attila) at the beginning of the story, in which it was supposed to be causally linked with the current use of the name. In the hypothetical situations, however, the names used in the vignettes did not clearly refer to the same individual at the end (as 'Attila'). Rather, the name kept altering when it is transferred from one generation to another. Finally, no true fact remained there at the end of the story. Thus, in Machery's J-cases, referring back to the original name as those in Kripke's original one is not evident. It is not clear who the name, 'Attila' refers to at the end and how the same person is causally related to the previous use of the name of the same reference.

The asymmetry in the intuitive judgments between the two groups of participants is the key findings of the study. Apart from that, Machery et al., (2004) also found differences between

individuals within a culture. As the findings are incredibly controversial, a significant number of studies had actually been replicated on the Gödel cases to confirm the robustness of the findings. Machery et al., (2004) responded many of the criticisms with new empirical data, which are collected based on the objections made by critics. Among them, Machery et al., (2009) and Machery, Deutsch and Sytsma (forthcoming) replicated the Gödel cases. Machery et al., (2010) also replicated the Gödel results using Chinese translations with Chinese participants. In addition, Livengood, Sytsma, Sato, and Mineki (unpublished data) have replicated the findings of Machery et al., (2004) on the Gödel cases with Japanese participants, showing that the Japanese tend to have descriptivist intuitions.

The findings of Machery et al., (2004) have received a substantial number of criticisms from various perspectives. It includes an epistemic perspective, from which the participants understand the research materials (i.e. speaker's reference ambiguity, perspectival ambiguity etc.). Criticisms involving the material also yield to experts' intuitions, types of intuitive judgment, second language competencies, pragmatic effect, and so on. The weakest part of their experiment is, perhaps, their partial judgment of the study. As most of the replications have been done on Gödel cases, however, very few replications have been conducted on Jonah cases. The following paragraphs will, therefore, shed light on the criticisms that the study received on Gödel cases from various perspectives.

A common reaction to the work of Machery et al., (2004) has been expertise defense (Ludwig, 2007; Deutsch, 2009; Devitt, 2011). It implies that considering folk intuitions from untrained participants is unnecessary to the task of philosophical investigation. Rather, experts' intuitions should be in agreement with greater evidential value in assessing theories of reference (Devitt, 2011). Devitt (2011) further argues that Machery et al. have exaggerated the role of intuition in hypothetical situations, and disregard the fact of intuitions about modal properties those are what Kripke try to elicit in many of his examples (Devitt, 2011).

In response to this criticism, Machery et al., (2012) argued that philosophers' intuitions cannot be a representation of greater populations. In a follow-up experiment, Machery et al., (2012) recruited some philosophers of language and linguistics around the world to report their intuitive judgments on G-cases. Among 272 scholars, whose expertise is likely to be relevant to the field, and as a result of that, they are familiar with Kripke or his 'Naming and Necessity', they gave

their intuitive judgments (86.4%) as consistent with the 'Kripkean' point of view. Other experts from different branches of linguistics, like, sociolinguistics, historical linguistics, anthropological linguistics, and discourse analysis reported their intuitions (68.7%) in the Descriptive point of view.

Furthermore, another objection is derived from the types of intuition that Machery et al., (2004) examined. Following this objection, only the linguistic intuitions can provide evidence to determine how reference should be fixed (Martí, 2009). Yet, Machery et al., (2004) inquired about people's metalinguistic intuitions which was evidently irrelevant for identifying the correct theory of reference, according to Martí (2009), and she also mentioned, Machery et al., (2004) tested intuitions about theories of reference but not about the use of names (Martí,2009). She further defined Metalinguistic intuitions as judgments about the semantic properties of names, whereas, linguistic intuition implies philosophers' judgments about individuals in the actual and hypothetical cases (Marti, 2009).

Machery et al., (2009) responded to this criticism, by collecting data on the modified version of the Gödel case, and conducted an experiment among the participants belonging to different cultures, such as India, France, and Mongolia. The findings, however, demonstrated no significant differences between participants' metalinguistic intuitions and participants' linguistic intuitions. Rather, they found a substantial with-in culture variation in intuitions about the reference that poses the same philosophical challenge as cross-cultural variations. In another study (Machery & Stich, 2012) of a similar vein, a test has been conducted on Americans, Mongolians, Indians, and French. The findings exhibit that Americans are likely to have Causal-historical intuitions compared to others. The responses from the French (Western) are noteworthy to mention, as they split roughly in half, while giving their responses aligned with the Descriptive view of reference, unlike the (western) Americans who showed a marked preference for the Kripkean view.

Another insightful criticism concerning the motivation of the study also came from Genoveva Martí (2009) and Michael Devitt (2011). Both pointed out that Nisbett et al.'s (2001) distinction regarding the style of thought as holistic and analytic, which was aligned with the Descriptivist and Causal-historical views of reference respectively, could not yield any correct predictions about referential intuitions of participants. Martí further illustrated the opposite view by citing

Kripke's Causal- historical view of reference. She argued that if the holistic style of thought of East Asians is socially oriented, then it must follow the Causal-historical view of reference; since the Causal-historical view of reference is concerned with how names have been causally and historically used over time in a linguistic community. In contrast, the Descriptive theory is supposed to be aligned with an analytic style of thought, and Westerners, being individualistic, were supposed to follow this style of thinking.

Besides, the research material that had been used in the study (Machery et al., 2004) was entirely in English, which might not bring genuine differences in intuitions, due to the native-language and second-language competencies of speakers (Barry Lam, 2010). Machery et al., (2010) contended this criticism by translating the Gödel case into Chinese and by replicating their original finding as opposed to Lam's initial findings. Sytsma, Livengood, Sato, and Mineki (unpublished data) also replicated the same probe on Japanese participants and found the descriptivist intuitions among the Japanese.

In criticizing the original vignettes of the study (Machery et al., 2004), many authors identified the questions of G-cases as ambiguous from different perspectives. They were markedly ambiguous with regard to Kripke's distinction between speaker's reference and semantic reference. Following the distinctions, a question of a vignette has two possible interpretations in the following manner: (a) when a user (e.g. John in the Gödel case) intends to be talking about someone he wants to refer (based on speaker's reference), and (b) the literal use of the name in the vignette (e.g. John uses the name Gödel referring to Gödel and this is the semantic reference of the name) (Ludwig, 2007; Deutsch, 2009; Ichikawa, Maitra, & Weatherson, 2012). The underlying ambiguities rely on the fact that in the Gödel story John (as a user) lacks some knowledge that the narrator is well aware of. This also entails a perspectival ambiguity in the questions (Sytsma & Livengood, 2011). It is clearly indistinguishable whose perspective is to be considered while responding to the questions. In response to the criticism, Machery et al., (forthcoming) argued that only the semantic reference is theoretically consistent with the original experiment. To settle this dispute empirically, Machery, Deutsch, and Sytsma (forthcoming) conducted an experiment on the clarified probe; they noted that the percentage of the responses to the Descriptive and Causal- historical views of reference between East Asians and Westerners were similar to the original unclarified probes.

1.8. The present study

The focus of this study is intuitions about proper names. We consider three distinct groups, belonging to different cultural backgrounds, and with different immigration status. The experimental group consists of ‘Asian immigrants’ and the controlled groups are mainstream Norwegian and Bangladeshi residents living in their respective cultures. We collect our data from these groups to observe peoples’ intuitive judgments on the basis of their geographical/cultural backgrounds and immigration status in both Gödel and Jonah cases. The study also expects to find intuitive differences in the eliciting responses of participants, based on the Kripke’s distinction between semantic reference and speaker’s reference.

In addition, the present study introduces a significant difference of J-cases between the probes of the original paper (Machery et al., 2004) and that of Kripke’s (1980) original one. The J-cases, involved in the current study, are also slightly different from the previous two. In the current material, we wanted to present it as precisely as possible, as well as, we adopted the linguistic form of the questions and of the two alternatives A and B as similar as possible to the Gödel cases (which is not so in Machery’s material).

In Kripke’s original Jonah case, a name Jonah had been introduced to refer to a person Jonah, who was given a name that was causally chained with the previous use of the name. As a result of this, the name was historically involved with the current use of the name Jonah, even though the associative descriptions were not necessarily attributed to him. The Jonah cases we get in Machery et al., (2004), as well as, in the present study, however, is little different compared to the original one refuted by Kripke. The proper names used at the end of vignettes of the J-cases do not necessarily refer to the same person, in the present study, as well as, in Machery et al., (2004). As a matter of fact, the responses that Machery et al., (2004) considered, as a correct response within the causal- historical view are not same as the current study. We consider (B) as a consistent response, unlike Machery et al., (2004) who selected (A) as a consistent response, from the causal point of view. Our predicted correct responses do not differ between the ‘Kripkean’ point of view and the Descriptive point of view in J-cases since we do not consider (A) to be a correct answer from the causal point of view. We finally combine the cases (G-cases and J-cases) together to obtain the final result because our predicted correct responses of the J- cases are not the same as G- cases.

The aim of this present study is fourfold. Firstly, the study will try to directly replicate the results of the original study (Machery et al., 2004), particularly, in the Gödel cases. Secondly, as mentioned before, we collected data from three culturally distinct groups of participants. The study expects to find a graded distribution of intuitions based on participants' geographical/cultural backgrounds, along with their immigration status. Thirdly, the differences we observed in Jonah cases between the current study and the previous study, when the cases are answered from the Causal point of view, the present study will try to resolve the issue in the present analysis. In doing so, the present study expects to have new findings, which may draw different conclusions from the previous study. Fourthly, as discussed earlier, the questions of Gödel cases can have two different interpretations following Kripke's distinction between semantic reference and speaker's reference; considering that, the answers will vary among the respondents. It is intuitively plausible that speakers, sometimes, on a given occasion, mean something, which may be incompatible to the meaning of semantic reference of the expression. In the present study, we want to see how people respond with regard to these distinctions in both cases, and, in entailing the findings; the present study anticipates to have a conclusion, which may differ significantly from the previous one.

2. Methods

The research approach of this current study is quantitative: a study that permits us to compare and quantify the problem by generating data from three different groups of participants. In this regards, the data were used to measure the pattern of the behavior; in this case, intuitions of members of each group and the findings were analyzed, accordingly, in the current analysis. The design of the experiment was in a form of a survey which included six short stories that were created in hypothetical situations to elicit people's intuitions from cross-cultural backgrounds. The participants' intuitions, therefore, were measured across different variables like cultural background, gender, age, educational background, linguistic competencies, and the numerical findings were analyzed in a statistical format. This particular section will present an elaborate account of the participants who took part in the experiment, the material used, the overall procedure, and the analysis of the data obtained from it.

2.1 Materials

Philosophers generally appeal to intuitions as a standard methodology for theorizing philosophical issues. Considering folk's intuitions, the study required to design an experiment where participants will elicit intuitions consistent with their thought, which will, later on, fall under the categories of the two families of theory of reference, namely, the Descriptive theory of reference and the Causal-historical view of reference.

To accommodate the intuitions consistent with the theories of reference, we designed the material closely modeled on the original study (Machery et al., 2004), with little modification in the present study, which has already been discussed above. The material consisted of six short stories, which were the mirror image of the G-case and J-case originally used in Kripke's 'Naming and Necessity' (1980) as were used in the original study by Machery et al., (2004). Four of our vignettes (two from each case), however, were directly taken from the original study and two new vignettes were created following the pattern of the previous vignettes of the G-case and J-case. The only modification we made was in the stories and the proper names, which we adopted in accordance with the culture and history of the Asian participants. Two well-known figures (e.g. Rabindranath Tagore and Mahatma Gandhi), who were considered equally influential in these two seemingly distinctive cultures in Asia, had been used as proper names in the current vignettes. (See Appendix).

The first three vignettes followed the pattern of the Gödel case and the remaining three followed the pattern of the Jonah case consistently. Each story contained one question with two possible answers, in which the options of the answers were consciously contrived to derive participants' intuitions from two different perspectives: the Descriptive view of reference, and the Causal-historical view of reference. Participants had to choose one of the answers based on their intuitions, which later on, fell into the two mentioned classifications of the theory of reference.

2.2. Participants

The participants were primarily selected on the basis of their cultural backgrounds, and, based on that, we categorized them into three distinct groups. The populations appointed in the experiment can be arranged in the following categories: (a) Group-1: mainstream Norwegians with English as their second language, (b) Group-2: Bangladeshi residents, living in Bangladesh, who were equally proficient in English as their second language. Here, the controlled groups were: Norwegians and participants from Bangladesh. (c) Group-3: our third group comprised Asian immigrants, living in Trondheim with English as their L2 (second language). Again, Asian immigrants were indiscriminately split into two sub- groups, such as Nepalese people residing in Trondheim, and people from Bangladesh living and working in Trondheim. They were jointly considered as a single experimental group. The actual number of participants who took part in the experiment was 84, however, to make each group even in number, the data taken from 75 (25 participants in each group) participants was randomly selected to be analyzed and the rest of them were discarded.

The participants from the first two groups (i.e. Group-1 and Group-2) were recruited from Trondheim, whereas, a collection of data from Bangladesh for the third group of participants was administered online from Norway. Norwegians who participated in the experiments were mostly studying or were working in different sectors of the country. We recruited them from NTNU and the nearby neighboring area of Moholt, a few kilometers away from NTNU. The participants from Bangladesh were all employees of a multinational company located in the capital of the country. They all ensured their educational credentials from renowned institutions locally and internationally. Socio-economic status was ensured among the three groups. The third group comprised Asian immigrants, who were identified as International Masters' students and some of them were making contributions to various fields in Norway. The estimated age range of the participants was 20 to 50 years of age. However, the calculated mean ages for the three groups

were 25.56, 27.28, and 18 years respectively, and the average years of formal education recorded for the groups were 16.76, 17.28, and 18 years. The average level of second language proficiency for the groups was calculated as 4.45, 4.02, and 3.79 successively out of a range of 5. The percentage of gender distribution was 44% female (33 females), and 56% male (42 males).

2.3. Procedure

The main part of the experiment was responding to the questions that were being asked about the G-cases and J-cases within the survey. Prior to this, participants filled out a questionnaire where they put down some information concerning their linguistic backgrounds, as well as, some other demographic factors that were believed to potentially affect/ explain their performance. Information that seemed relevant for the experiment were: participant's initials, age, educational background, language proficiencies, English Language proficiency, current city of residence, e-mail address etc. English Language proficiency in participants had been evaluated by a kind of self-assessment approach in four categories: Reading, writing, speaking and listening. Some answers of the questions required participants to write in the blank space of the given form and for the self-assessment of English Language proficiency they selected from among the range of five options, ranging from 1 to 5. 5 was considered excellent proficiency in English, 1 was, on the other hand, poor. The whole experiment, together with the demographic questionnaire, was administered in an online form created by Google form.

Participants were given as much time as they required to fill out the questionnaire and to take part in the experiment in their personal computer. Each participant received a request with an email after taking his/her consent personally over the experiment. An email attached with the link of the online form was sent to each participant; no compensation was offered for their participations in the experiment. To preclude identification and to keep their identities anonymous, participants wrote their initials instead of their full-names. It had also been confirmed at the beginning of the experiment that no personal information would be disclosed and the survey would be completely anonymous.

2.4. Data analysis

Participants' responses were analyzed as follows. First, we coded the number of 'A' responses (first option) in each of the six tasks as 1 and 'B' responses as 0. We then took the sum of these values in the three Gödel scenarios (ranging from 0 to 3) and in the three Jonah scenarios (again

ranging from 0 to 3). Mean values in each scenario type were also computed. The frequency of A responses and mean values are shown in Figure 1. We used two ANOVA models with identical between-subjects factors: Geographical or Cultural Background of participants (2 levels: Western or Asian) and Immigration Status (2 levels: Residents or Immigrants). Our experimental design is not fully factorial. The factors model *three* groups: Norwegians (Western, Resident), Asian immigrants living in Norway (Asian, Immigrants) and Bangladeshi (Asian, Residents). The dependent variables in the ANOVA were the sum of ‘A’ responses in the Gödel scenarios and in the Jonah scenarios, considered as two separate variables. Performance in each group was also compared against chance levels ($\mu=1.5$), using Wilcoxon signed-rank test (one-sample) on data from the G-cases or the J-cases.

In addition, we labeled participants as belonging to four different groups, depending on their performance *across tasks*, i.e., across the Gödel and Jonah cases. If participants gave a majority (2 or 3) ‘A’ responses in the G-cases, and a majority of ‘A’ responses in the J-cases, there were included in the Speaker Reference (SR) group. A majority of ‘A’ responses in the G-cases and a majority of ‘B’ responses in the J-cases implied the participant was included in the Definite Descriptions (DD) group. The ‘B’, ‘B’ pattern defined the Causal-Historical (CH) group. The remaining ‘B’, ‘A’ pattern was labeled as XX, inconsistent with all the major theories of reference considered here. We then proceeded to count the number of participants in each of these four groups, keeping the three samples (Norwegians, Asian Immigrants, Bangladeshi participants) separate. The results are shown in Figure 2.

3. Results

Our results show that Westerners and Asians tend to give different responses in both the G-cases and the J-cases. Specifically, Norwegians perform at chance level in the G-cases ($V=176$, $p=0.7$), whereas Asians are above chance (AIM: $V=306.5$, $p<0.001$, BAN: $V=294$, $p<0.001$). Similarly, Norwegians are at chance in the J-cases ($V=224$, $p=0.06$), and Asians are above chance (AIM: $V=325$, $p<0.001$, BAN: $V=325$, $p<0.001$). These patterns can be easily recognized in Figure 1, left-hand side plots (yellow). In Figure 1, the data shown in the right-hand side plots (light blue) provide an explanation for why Norwegians are at chance, and Asians are above chance in both tasks. The reason is that the group of Norwegians is actually split into two sub-groups: a group that gives consistent ‘A’ responses, and a group that gives consistent ‘B’ responses. This applies to both the G-cases and J-cases. In contrast, most Asians tend to give consistent ‘A’ responses in both tasks. This means that the observed differences across groups are essentially driven by the sub-group of Norwegian participants who give consistent ‘B’ answers, in line with the causal-historical view. We consider this to be a replication of Machery et al.’s (2004) results. Note that Machery et al. also report that their participant groups are split (they note the “dichotomous nature of the underlying distributions”). The ANOVA confirms this finding, and reveals main effects of Geographical Background in the G-cases ($F(1,72)=7.123$, $p=0.009$) and in the J-cases ($F(1,72)=5.366$, $p=0.02$), but no effects of Immigration Status ($p>0.1$). Our second analysis was aimed at determining whether the overall trend to give ‘non-Kripkean’ responses is in fact consistent with the Definite Descriptions theory. We found that it is not. Our analysis of response patterns across tasks clearly shows that the majority of participants give responses consistent with Speaker’s Reference (SR; 11 NOR, 17 AIM, 20 BAN), followed by the Causal-Historical group (CH; NOR 9, AIM 4, BAN 4). Almost nobody gave responses consistent with Definite Descriptions (DD) across tasks.

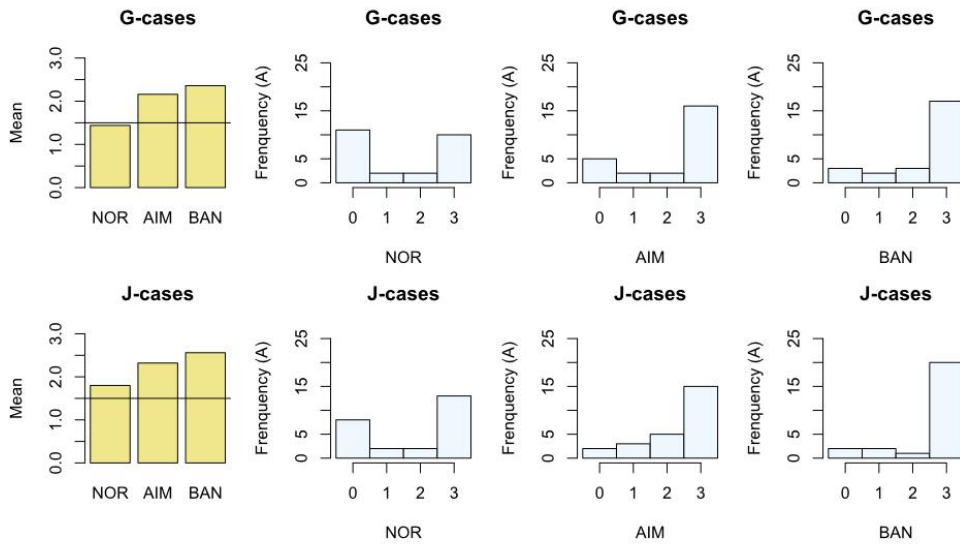


Figure 1. Summary of results in the G-cases and J-cases considered separately.

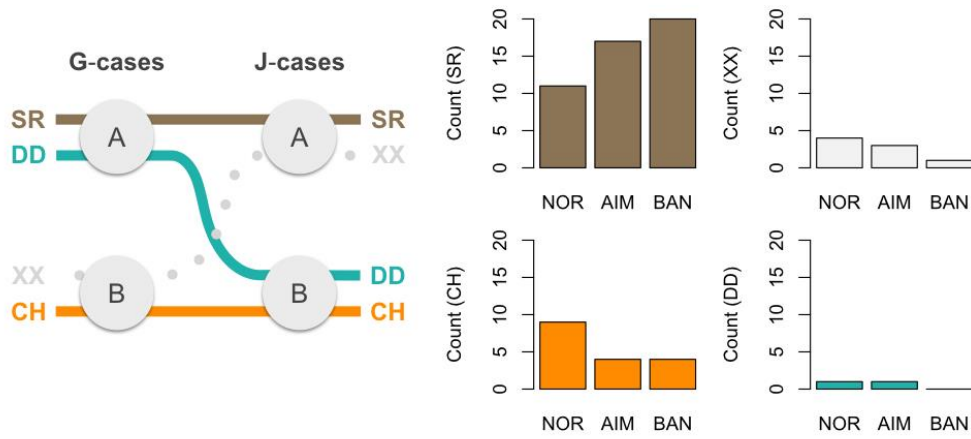


Figure 2. Summary of results in the G-cases and J-cases considered jointly.

4. Discussion

We attempt to replicate the findings of the original paper (Machery et al., 2004), particularly, of Gödel cases. Apart from that, the central interest of the study has been to reveal whether there exist a systematic variation (i.e. Geographical/Cultural) in people's intuitions about the Gödel and Jonah cases across the designated cultures (Asian and Western) and within these cultures, with an equal emphasis given on Immigration status. Following the original study (Machery et al., 2004) we expected to find a systematic variation in intuitions among the groups based on these mentioned criteria. Specifically, we were curious to notice any Western influences, if these did prevail, within the intuitive judgments of Asian immigrants, who were holding a distinctive cultural background compared to the culture of their present residence. Also, our considered correct responses of the Causal-historical view of reference in J-cases are varied between the present study and the original study (Machery et al., 2004). We, therefore, joined G-cases and J-cases together to separate all the 'non-Kripkean' references from the Descriptive view of references, and to get the actual responses consistent with the two theories of reference, along with speaker's reference in the final analysis. Thus, the present analysis leads us to anticipate new findings which might suggest different conclusions from those of the previous study (Machery et al., 2004).

The results of our experiment demonstrate a cross-cultural variation in intuitions among the groups. What we find to support the findings of the original study is the assumed intuitive differences on Gödel cases across the cultures, even within a culture. Westerners and Asians responded differently, while the G-cases and J-cases are considered separately in our first part of the analysis (Figure 1). The intuitive differences hold intra-culturally among Norwegians, as well as, interculturally across the groups. Norwegians split into two sub-groups, and approximately half of them were likely to respond according to the Causal-historical view of reference compared to Bangladeshi residents and Asian Immigrants; whereas Asians tended to respond in a manner aligned with the Descriptive view of reference and speaker's reference (Figure 1). In order to distinguish the responses aligned with the Descriptive view of reference from all the 'non-Kripkean' responses and to see the overall differences in the distribution of intuitions in both cases, we combined the cases together in the second analysis (Figure 2). We found almost no response consistent with the Descriptive view of reference. Asian participants, including

Immigrants, and rest of the Norwegians, who did not respond aligned with the ‘Kripkean’ view, were likely to respond according to the speaker's reference. Neither the group of Bangladeshi people nor the Asian Immigrants, in the final analysis, responded according to the Descriptive view of reference. We found an effect of the geographical/cultural background of the participants, but not of the immigration status (Figure 2).

Theories of reference are primarily concerned with the question of in virtue of what fact a name refers to an object by an individual. To accommodate the answers to this question, analytic philosophers theorize about reference differently in the philosophy of language. In the present study, we employed the following underlying theories and concept related to reference: (1) The Descriptive view of reference; (2) the Causal-historical view of reference, and (3) Speaker's reference. A Descriptive view of reference determines a referent of a proper name through descriptions. These descriptions associated with proper names are synonymous, and further specify a set of properties of objects. The primary concept of the definite description is to determine referents of proper names through descriptions that satisfy the objects uniquely. If descriptions do not satisfy the object uniquely, the referents will be fixed on the basis of descriptions that satisfy most of the properties of objects (Searle, 1958; Lewis, 1970). A descriptions, that does not satisfy at all or many individuals satisfy the description, associated the name does not refer. This is how meanings and references of proper names are fixed in the classical framework. Yet, the significant drawback of the classical descriptivist framework hinges on their inability to single out a unique bearer of a proper name or to pick out a true bearer of a name through description. In fact, speakers associating a description with a name can only determine the reference of the name, but the meaning of names cannot be retrieved through descriptions (Kripke, 1980). To refute the classical view of reference, Kripke (1980) arguably illustrated a philosophical concept, namely, the rigid designator through which he endorsed a completely different picture of how names work in every possible situation. His theory of Causal-historical view of reference also revolutionized the way philosophers usually looked at theories of reference in analytic tradition.

The Causal-historical view of reference yields a strikingly different picture of how a reference of a proper name gets settled in a linguistic community. According to this theory, a name can be grounded into a linguistic community through a description associated with the name. After

introducing the name or fixing the reference into that linguistic society, descriptions do not play any role in fixing the meaning of the reference. One of the significant ideas of this theory is that speakers maintain the present use of the name historically, via a sort of causal chain of successive usage that connects the present use of the name to its previous use with the same reference. For instance, each speaker can attain a proper name from its previous users, who in turn learned it from someone else; who may transfer it to another person, and so on, up to the individual who first introduced the name to specify the object into the linguistic community. Regarding the rigid designator, it is noteworthy to clarify, rigidity and causality are two different aspects explained under the same theory of naming. Although the concept of rigidity comes as a relevant concept besides the Theory of Causal-historical view of reference, it does not have any causal element in itself. The functionality of a rigid designator essentially lies in the fact of fixing a reference by which it can prevent the reference from being changed in every counterfactual situation. By rigidifying proper names, a rigid designator can refer to the same object in every possible situation without changing the reference, and this is what the Theory of Definite description can never tackle in every possibility. However, rigidity, as a philosophical concept, is an outcome of Kripke's stipulation, which can work in every possible world. It does not involve any cause and effect relationship with terms like those in a real world.

A concept related to reference of proper names that we incorporated here, lastly, is speaker's reference. Speaker's reference employs a framework primarily based on pragmatics, in which references of proper names are determined not by semantic reference of the terms, but by considering speaker's specific intention in particular settings. Kripke (1977) made a fundamental distinction between semantic reference and speaker's reference of proper names. He further distinguished between speaker's general intentions and specific intentions, while making a reference to objects' semantic bearer, and to a particular object that an individual wants to talk about. When a speaker literally uses proper names to refer to things, it is the speaker's general intention. Speaker's specific intention however is determined when speakers intend to talk about someone in specific situations. As Kripke (1977) mentioned, in a simple case, both the intentions coincide and speaker's general intention is the same as speaker's specific intention. In complex cases, speaker's general intentions and specific intentions diverge. A reference that a speaker may have in mind can be different from the semantic reference of the same expression. Thus, a speaker's erroneous belief concerning her general and specific intentions to be similar about the

reference of proper names may lead to misuse of the name that the speaker wants to talk about. In this case, the ‘Gricean’ notion of words’ meaning and what speakers mean, on the basis of the pragmatic analysis, in a specific context, can be applied to distinguish semantic reference from speaker’s reference. In Kripke’s (1977) own example, a speakers’ misidentification of someone as ‘Smith’, who is subsequently identified as ‘John’ by the speakers, and describing a true fact (‘raking the leaves’) concerning ‘what ‘John’ (‘Smith’) is doing’, is only be meaningful if we consider speaker’s reference in that context.

Our findings in favor of the ‘Kripkean’ view of reference in the group of Norwegians concur with the findings of the original study (Machery et al., 2004), and those of the replications done on the Gödel cases, in which they exhibit Westerners are more likely to respond consistent with the Causal- historical view of reference. The findings also confirm an intra- cultural variation of intuitive judgments of the same group. What is incompatible; however, with the original findings are the responses derived from the groups of Asian participants who are thought to be eliciting their responses following descriptivism. Rather, they elicit their responses in accordance with speaker’s reference. We justify our findings by considering a number of reasons for having such discrepancies from the previous study. Though Machery et al., (2009) legitimize the idea that semantic reference and the intuitions derive from it are relevant to theories of reference, the results of the present study amount to a substantial number of responses derived from the speaker’s reference view.

Justifying our findings concerning the responses followed by the speaker’s reference, we claim that solely considering people's referential intuitions as a methodological practice is not the only way of giving a plausible analysis. This is because, in the theories of reference including Causal- historical view, when we consider linguistic usage, we cannot evaluate our findings taken separately from a pragmatic point of view. How participants respond to the questions that are being asked depends on their conception about the topic, context of the utterance, participant’s background knowledge, and most importantly their implicit knowledge of pragmatic maxims. By considering the specific context of speakers, together with the general principle of the pragmatic maxims, participants (Asian Immigrants, Bangladeshi residents, and rest of the Norwegian residents who did not respond according to the ‘Kripkean’ view) govern their intuitions to make predictions about the proper names. In addition, as the questions involved in both cases are

indistinguishable from the perspective of semantic reference and speaker's reference, it is quite plausible for the participants to elicit their intuitions based on the specific intention they perceive about the referent. In this case, their semantic reference may not be the same as their speaker's reference.

Besides, both Marti (2009, 2014) and Devitt (2011a, 2011b) share a similar concern in response to Machery et al.'s (2004) findings. They argue that those theories of reference can be experimentally tested, not based on empirical data derived from the participants' referential intuitions; rather, what constitutes the correct theory of reference is the speaker's linguistic usage. Moreover, if we consider that the linguistic usage by speakers (or how speakers use proper names to refer to an individual) can provide a correct interpretation of our responses that we received from the Asian participants, then, it is important to take aside the ambiguity between semantic reference and speaker's reference. Considering a proper context can only solve that ambiguity. As it is not possible to hold a single context, we, therefore, hypothesize the questions of our vignettes in both cases are ambiguous between the semantic reference and speaker's reference meaning. Machery et al., (2015), however, claimed to have no intuitive differences while replicating the modified version of the G- cases based on the same objection, and they argued only semantic reference is relevant to the theories of reference. We strongly claim that aligned with the Kripke's idea, drawing a line can be possible between what words can mean and what speakers' mean by using those words, in a given situation, based on the Gricean notion of "conversational maxim". We hereby justify the position that our Asian participants elicit responses according to speaker's reference. Though we keep the linguistic formation of the questions of our current vignettes as similar as possible with the original study, we can still give evidence by considering speaker's reference as one of the plausible analyses, which can accommodate indirectly (as we did not consider 'linguistic usage' as a standard methodology in our experiment) the idea of what Marti and Devitt mentioned.

Another important finding of the present study comes from the explanation of the notions of semantic externalism and internalism. We speculate from our findings, approximately half of our western (Norwegians) participants elicit their intuitions according to the Causal point of view, which follows, in turn, an externalist view of semantic reference. In contrast, the responses we get from the Asian participants (Bangladeshi residents and Asian Immigrants) may not be entirely

consistent with an externalist account of semantic reference. Externalism and internalism are the two opposing views, by which different philosophical issues can be explained. They are not concerned about the meaning itself; rather, they provide a ground by which one can get to learn how a meaning of an expression is determined (Haukioja, forthcoming). Externalism entails that facts external to the speakers can serve as the justification of their belief. In other words, semantic externalism conveys the idea that the meanings of at least some linguistic expressions are not entirely determined by the intrinsic properties of speakers (Haukioja, forthcoming). The meaning or the semantic properties of corresponding expressions may differ on the basis of external factors that they are related with (Haukioja, forthcoming).

In the classical thought experiment regarding externalism, physically identical individuals embedded in a different environment results in different references in the actual world and other possibilities (Lau & Deutsch, 2014). Putnam's (1975) 'Twin Earth' thought experiment demonstrates meanings and references of terms are not solely determined by our internal physical states of mind or thought associated with the term 'water' (H₂O); rather, meaning of the 'water' depends on the communal linguistic usage and the nature of the substance of the term 'water' (H₂O). Kripke (1980) argued following the same philosophical doctrine in his Causal-historical view of reference. In the Causal-historical view, it is quite evident that meanings of the proper names and natural kind terms are wholly determined by the external factors, like 'social baptism' or 'naming ceremonies', or even causal-historical relation of references in a linguistic community, which certainly portray an externalist determination basis of meaning (Haukioja, forthcoming). The externalist view, concerning to a set of properties of objects, determines, in part, how the properties are singled out and related to its external environment (Lau & Deutsch, 2014). Even in a metaphysically possible situation, the intrinsically identical objects can have expressed certain properties only being situated in a particular environment (Lau & Deutsch, 2014). Even though descriptivism supports internalism in some sense, we consider the mentioned characteristics of an externalist account are being compatible with the Causal-historical view of reference, and the Descriptivist view, in which meaning determination is realized by a correlation of mental contents with the external world. In this case, it is the external factor which dominates the process of meaning determination of expressions. Looking back into our findings, the results demonstrate obvious intuitive differences among the participants from different cultural

backgrounds. We, therefore, argue about half of our ‘Western’ participants (Norwegians) exhibit an externalist account of semantic reference followed by the Causal-historical view of reference.

On the other hand, semantic internalism, as opposed to semantic externalism, implies that propositional content of an expression is always constrained by some mental intrinsic properties of speakers (Haukioja, forthcoming). An Internalist view requires one’s justification of mental contents to be internal in some way. Following our data from cross-cultural backgrounds, we can say, none of our groups (i.e. Asian, Western) produces their intuitions by following a pure internalist or an externalist account of semantic reference. For the groups of Asian participants, we speculate, there are certain internal mental properties which sometimes determine what speakers refer to, in a specific context, by using certain expressions. This view may not be entirely consistent with a purely externalist account of semantic reference. Following internalism, it does not exclude the possibility of a causal effect that an internalist may receive from the external environment (Lau & Deutsch, 2014). In regards to our findings related to speaker’s reference, we stipulate, even though our participants have elicited their responses by considering a certain context, it is the intrinsic mental properties of speakers that determines meanings of references. By taking into account of these features of internalism, we arguably consider our responses which we align with the speaker’s reference view do affirm a consistency in certain sense with an internalist view. In this case, internal mental contents determine what speakers want to mean by certain expressions on a given occasion.

Furthermore, two other significant findings of our study are: a geographical/ cultural effect that we found among the participants belonging to distinct cultural groups, and an effect on their immigration status, which we did not get in our analysis. In order to explain the significance of our findings of the geographical /cultural effect, we can say that critics cannot completely dismiss the findings of Machery et al., (2004). One common response to Machery et al., (2004) findings raised by critics is to dismiss the intuitive responses of untrained folks. As we noticed above, however, Machery et al., (2012) found that even among linguists and philosophers of language there were differences in intuitions about the Kripkean view. Machery and his collaborators try to find some way to accommodate the observed variability by different kinds of responses with empirical data. The empirical data collected by us, as well as, Machery et al. on various

replication cases, however, demonstrate an obvious variation in intuitions, and the present study also explicitly shows westerners and Asians responded differently.

The concept of referential pluralism is a widely-discussed idea in philosophy. It implies that numbers of distinct reference relations determines how names refer to their objects. Machery et al., (2004) argued variations in intuitions are problematic since it leads philosophers to endorse an ‘absurd’ position in considering whose intuitions are predicted to be correct. Hence, the issue is whether the theory of reference can be based on the intuitions of the philosopher only, or it must take into account those of naive speakers as well. Many authors endorse their position in favor of a possibility of intuition- based theorizing. We, however, do not have the space to discuss this. What we want to stipulate is that referential pluralism is also observed in some sense in the present study as well. We had to endorse different theories of reference to come to a conclusion concerning intuitions of the participants from different cultural backgrounds. If we consider referential intuition as holding at the level of our entire population, we can say that different people have different intuitions. No particular theory can solely accommodate a proper analysis of all the elicitations we received across the groups. Some authors argue that neither a pure Descriptive theory nor a Causal-historical theory would be sufficient; instead, they proposed a hybrid theory of reference (Genone & Lombrozo, 2012). In our case, referential pluralism does not hold at the individual level, at least, we do not have any evidence of that. Our participants were fairly consistent with their responses, and they were easy to categorize in groups. In our final analysis, although approximately half of our western participants responded consistently with the Causal-historical view, the majority of the populations seem to have definite intuitions (i.e. speaker’s reference.).

Though we pragmatically accommodate all our responses from the Asian participants based on the linguistic usage of speakers (i.e. speaker’s reference), we do not directly consider ‘linguistic usage’ as a proper methodology to support the theories of reference, as long as Marti and Devitt’s main concern was relevant. A very recent work on ‘testing the Causal theory of reference’ (Domaneschi et al., 2017) exhibits, in an experimental setting, that the Causal theory of reference for proper names can be tested by investigating linguistic usage. Apart from that, secondary, but interesting findings were: participants endorse semantic reference for assigning people proper names, and use speaker’s reference for geographical proper names. Yet, what our findings show

is completely different than that of Domaneschi et al., (2017). Our data demonstrates how participants' usage of names to refer to a certain individual is determined by their specific intentions in particular contexts. We expect future implication will shed light on the ambiguity relations of semantic reference and speaker's reference, while considering linguistic usage as a proper methodology, in an experimental setting, to find the role of intuitive judgments of speakers in relation to the theory of reference.

5. Conclusion

The study we have presented here is on experimental philosophy. Our research goal has been centered on four specific questions in relation to the findings of Machery et al., (2004). This study was an attempt to replicate Machery et al., (2004) findings, along with three other research objectives aiming at presenting different conclusions from the original study: (1) replicating the original findings of Gödel cases, (2) investigating intuitions based on participants geographical/cultural variation and immigration status in both cases, (3) analyzing the data in the present study by considering the differences based on what should count as a consistent response in the J-cases, and (4) confirming ambiguities, if it persists, in the questions of both cases, based on the distinction between semantic reference and speaker's reference.

Our study confirms a variation in intuitions across the cultures and, even within a culture. We demonstrate, approximately half of our Norwegian residents elicit their responses according to the Causal- historical view. On the other hand, Bangladeshi participants including Asian Immigrants derive their responses following the notion of Speaker's reference. We ensure a geographical/cultural variation in intuitions among the groups of participants. For the group of Norwegians, we demonstrate, being westerners, they showed a marked preference for the Causal-historical view of reference, which we consider a direct replication of Machery et al., (2004). In addition, while eliciting responses in both cases, we also observed the Norwegians split into two sub-groups, which also represent with-in culture variation among the participants of that group. Considering those findings together, we can confirm a partial replication of the original findings because we almost do not get any elicitation from the Descriptive point of view. The conclusions we can draw from the present study differ from those of Machery et al., (2004).

Our findings differ as follows. For the participants belonging to Asian cultural background, including Immigrants, we demonstrate, they are likely to respond consistently with the view of speaker's reference. Almost no one responds according to the Descriptive view of reference in our final analysis. We do not find any statistical differences in intuitions based on the immigration status of the participants. After resolving the inconsistency regarding the correct answers of the Jonah cases from the Causal point of view, the final analysis exhibits a very significant difference from the findings of the previous study (Machery et al., 2004). We found

most of our participants, including Asian residents, immigrants, and rest of the Norwegians, responded according to speaker's reference. The significance of the finding is twofold: we demonstrate participants can refer to an individual who they intend to be talking about, and we thereby confirm the ambiguity that persists in the questions of both cases, based on the distinctions between the semantic reference and speaker's reference.

We justify our findings regarding the variation in intuitions of participants between the groups (i.e. Norwegians, and Asians) by considering the distinction between semantic externalism, and internalism, as well as, Kripke's distinction between semantic reference and speaker's reference. We argue that almost half of our western participants elicit referential intuitions following the Causal-historical view of reference, which in turn can be correlated with an externalist account of semantic reference. In contrast, our participants from Asian background elicit their intuitions following speaker's reference, which allows them referring to certain expressions by using their internal mental elements, on a given occasion. We hypothesize that this view may not be entirely consistent with a purely externalist account of semantic reference; rather, it has some internalist elements (i.e. in a form of speaker's specific intention) that determine meanings, together with speakers specific context.

Though our findings differ significantly from the original study (Machery et al., 2004), it is also true, we could able to replicate, partially, the original findings of Machery et al., (2004). Our primary goal has been to report the findings in new empirical studies, with keeping the original findings of Machery et al., 2004 in the background. By situating those findings of the current study within the larger debate about cross-cultural semantic intuitions, we can say, our data demonstrate a visible cross-cultural variation between Westerners and Asians. We conclude that critics cannot completely ignore the significance of the original findings of Machery et al., (2004). There must have something in the data that brings the variation in intuitions, but we do not know what, exactly, brings the variation among populations of cross-cultural background. Indeed, further work is necessary to be carried out in order to respond to philosophical challenges raised by studies of folk institutions.

References

- Beaney, M. (2014). Analysis, Zalta, E.N. (ed), *The Stanford Encyclopedia of Philosophy* (Summer 2016 Edition). Metaphysics Research Lab, Stanford University
- Chomsky, N. (1965). *Aspects of The Theory of Syntax*. Cambridge, Massachusetts: The M.I.T Press.
- Devitt, M. (2012). Whither Experimental Semantics?. *Theoria* 73, 5-36.
- Devitt, M. (2011). Experimental semantics. *Philosophy and Phenomenological Research* 82, 418-435.
- Deutsch, M. (2009). Experimental Philosophy and the Theory of Reference. *Mind & Language*, 24, 445–466.
- Domaneschi, F., Vignolo, M., Di Paola, S. (2017). Testing the causal theory of reference. *Cognition*, 161, 1-7.
- Frege, G. (1948). Sense and Reference. *The Philosophical Review*, 57(3), 209-230. doi:10.2307/2181485
- Genone, J., & T. Lombrozo. (2012). Concept Possession, experimental semantics, and hybrid theories of reference. *Philosophical Psychology*, 25, 717-42.
- Hintikka, J. (1999). The Emperor's New Intuitions. *The Journal of Philosophy*, Vol. 96, No. 3, 127-147.
- Haukioja, J. (forthcoming). Semantic Externalism and Semantic Internalism. *A companion to the philosophy of language* (2nd revised and extended edition).
- Ichikawa, J., I. Maitra, & B. Weatherson (2012). In defence of a Kripkean dogma. *Philosophy and Phenomenological Research*, 85, 56-68.
- Machery, E., R. Mallon, S. Nichols, & S. Stich. (2004). Semantics, cross-cultural style. *Cognition*, 92, B1- B12.

- Machery, E., Deutsch, R. Mallon, S. Nichols, J. Sytsma, & S. Stich. (2010). Semantic Intuitions: Reply to Lam. *Cognition* 117, 361-6.
- Machery, E., M. Deutsch, & J. Sytsma. (2015). Speaker's reference and cross-cultural semantics. In *On reference*: Oxford University Press.
doi:10.1093/acprof:oso/9780198714088.001.0001
- Machery, E., R. Mallon, S. Nichols, & S. Stich. (2013). If folk intuitions vary, then What? *Philosophy and Phenomenological Research*, 86, 618-83.
- Machery, E., C. Y. Olivola, & M. de Blanc. (2009). Linguistic and metalinguistic intuitions in the philosophy of language. *Analysis*, 69, 689-94.
- Machery, E., & S. Stich. (2012). Experimental philosophy of language. *Routledge Companion to the Philosophy of Language*, 495-512.
- Mallon, R., E. Machery. S. Nichols, & S. Stich. (2009). Against arguments from reference. *Philosophy and Phenomenological Research*, 79, 332-56.
- Jerkert, J. (2012). Reflections on Saul Kripke's Naming and Necessity (1980).
- Justin Sytsma, J. L. (2012). Experimental Philosophy and Philosophical Disputes, *Essays in Philosophy*: Vol. 13: Iss. 1, Article 9.
- Kripke, S. (1972/1980). *Naming and Necessity*. Cambridge, MA : Harvard University press.
- Kripke, S. (1977). Speaker's reference and semantic reference. *Midwest studies in philosophy*, II, 255-276.
- LaPorte, J. (2016). Rigid Designators. Zalta, E.N. (ed.), *The Stanford Encyclopedia of Philosophy* (Spring 2016 Edition). Metaphysics Research Lab, Standford University.
- Lam, B. (2010). Are Cantonese-speakers really descriptivists?. Revisiting cross-cultural semantics. *Cognition* 115, 320-329.

- Lau, J. & Deutsch, M. (2014). Externalism About Mental Content. Zalta, E.N. (ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2016 Edition). Metaphysics Research Lab, Stanford University.
- Machery, E. (2011). Variation in intuitions about reference and ontological disagreements. *A Companion to Relativism*, 118-36.
- Machery, E. (2012). Expertise and intuitions about reference. *Theoria* 27, 37-54.
- Marti, G. (2009). Against semantic multi-culturalism. *Analysis* 69 (1), 42-48.
- Mallon, R., E. Machery, S. Nichols, & S. Stich. (2009). Against arguments from reference. *Philosophy and Phenomenological Research*, 79, 332-56.
- Reimer, M. & Michaelson, E. (). Reference. Zalta, E.N. (ed.), *The Stanford Encyclopedia of Philosophy* (Spring 2017 Edition). Metaphysics Research Lab, Stanford University.
- Russell, B. (1905). On Denoting. *Mind*, New series, vol.14, No. 56, 479-493.
- Schwitzgebel, E. (2014). Introspection. Zalta, E.N. (ed.), *The Stanford Encyclopedia of Philosophy* (Winter 2016 Edition). Metaphysics Research Lab, Stanford University.
- Zalta, E. N. (2016). Gottlob Frege. Zalta, E.N. (ed.), *The Stanford Encyclopedia of Philosophy* (Spring 2017 Edition), Metaphysics Research Lab, Stanford University.

Appendix

Welcome!

In this study, we are interested in how people understand short stories, and in what conclusions they draw from them. In this booklet you will find 7 such stories, and you will be asked a few questions concerning each story. Please read each story carefully before answering. There are no right or wrong answers. The stories are all unrelated. The order in which they are presented in this booklet is irrelevant. Please fill in the data below before starting. The study is entirely anonymous.

Your initials: _____

Your date of birth: _____ / _____ / _____

Your place of birth: _____

Your current nationality: _____

Your average year of formal education: _____

Where do you currently live? _____ Since: _____

The languages you speak (in order of proficiency from best to worst):

_____ (your mother tongue)

How would you rate your knowledge of English (1 is very bad, 5 is excellent):

Speaking: 1 — 2 — 3 — 4 — 5

Writing: 1 — 2 — 3 — 4 — 5

Spoken comprehension: 1 — 2 — 3 — 4 — 5

Written comprehension: 1 — 2 — 3 — 4 — 5

G1 — Story 1

Suppose that John has learned in college that Gödel is the man who proved an important mathematical theorem, called the incompleteness of arithmetic. John is quite good at mathematics and he can give an accurate statement of the incompleteness theorem, which he attributes to Gödel as the discoverer. But this is the only thing that he has heard about Gödel. Now suppose that Gödel was not the author of this theorem. A man called ‘Schmidt’, whose body was found in Vienna under mysterious circumstances many years ago, actually did the work in question. His friend Gödel somehow got hold of the manuscript and claimed credit for the work, which was thereafter attributed to Gödel. Thus, he has been known as the man who proved the incompleteness of arithmetic. Most people who have heard the name ‘Gödel’ are like John; the claim that Gödel discovered the incompleteness theorem is the only thing they have ever heard about Gödel. When John uses the name ‘**Gödel**’, is he talking about:

- The person who really discovered the incompleteness of arithmetic
- The person who got hold of the manuscript and claimed credit for the work

(Tick one box corresponding to appropriate response)

G2 — Story 2

Anita is a high-school student in Nepal. In her literature class she was taught that Rabindranath Tagore was the first Asian who won the Nobel prize for his notable contribution in literature. He received this prestigious prize for translating his own work ‘Gitanjali’, which was originally written in Bengali. Like all her classmates, these are the only things she heard about ‘Gitanjali’ and Tagore. Now suppose that Tagore was not the translator of ‘Gitanjali’. One of his friends named Arjun actually did the work for him, but Arjun remained completely undetected as he died soon after finishing the translation. Somehow Tagore got hold of the translation and claimed credit for it. Many people who have heard about Tagore are like Anita: the claim that Tagore wrote and translated ‘Gitanjali’ is the only thing they have heard about Tagore and his poem. When Anita uses the name ‘**Tagore**’, is she talking about:

- The person who really translated the poem ‘Gitanjali’
- The person who did not recognize the work of Arjun in translating ‘Gitanjali’

(Tick one box corresponding to appropriate response)

G3 — Story 3

Ivy is a high-school student in Hong Kong. In her astronomy class she was taught that TsuCh’ungChih was the man who first determined the precise time of the summer and winter solstices. But, like all her classmates, this is the only thing she has heard about TsuCh’ungChih. Now suppose that TsuCh’ungChih did not really make this discovery. He stole it from an astronomer who died soon after making the discovery. But the theft remained entirely undetected and TsuCh’ungChih became famous for the discovery of the precise times of the solstices. Many people are like Ivy; the claim that TsuCh’ungChih determined the solstice times is the only thing they have heard about him. When Ivy uses the name ‘**TsuCh’ungChih**’, is she talking about:

- The person who really determined the solstice times
- The person who stole the discovery of the solstice times

(Tick one box corresponding to appropriate response)

J1 — Story 4

In high-school in India, students learn that *Mahatma Gandhi* was the preeminent leader of Indian Independence movement. He practiced civil-disobedience as a weapon to end the British rule in India, subsequently calling the British to quit India in 1947. Now suppose that none of these is true. No one led the liberation movement against the British. Actually, the facts are the following: during the period of British Indian tenure in the mid of 1945, a nobleman, named *Moksh*(liberation) became very popular among the locals for his non-

violent protest against injustice of the local ruler; subsequently, he became a leader in a small, peaceful area in what today is Nepal, several hundred miles away from India. *Moksh*, being a wise and kind hearted man, managed to preserve peace in his small land. For this reason, he became the main character of many stories. But often when the story was passed on from one generation to the next, the peasants would embellish it, adding imaginary details and dropping some true facts to make the story more exciting. From a peaceful nobleman, *Moksh* was gradually transforming into *Mohnish*(equivalent to God Krishna), and later, when it reached India, the legend became *Mohanraj* (God Krishna), who led the liberation movement against the British. By the end of the 1947, the story told of an Indian leader, *Mahatma* (a great soul), who got his country liberated from the British empire and founded India. By that time, not a single actual fact had remained in the story.

The story about the glorious life of *Mahatma* was written down by a scrupulous hindu monk, from whom all our belief derived. Of course, Indian knows nothing about these real events. They believe about a story of a man who led the liberation movement against British and founded India. When a contemporary Indian high-school student uses the name '**Gandhi**', is he talking about:

- The liberator of India from British rule
- He is talking about fictional person who does not really exist

(Tick one box corresponding to appropriate response)

J2 — Story 5

In high school, German students learn that Attila founded Germany in the second century A.D. They are taught that Attila was the king of a nomadic tribe that migrated from the east to settle in what would become Germany. Germans also believe that Attila was a merciless warrior and leader who expelled the Romans from Germany, and organized a large and prosperous kingdom. Now suppose that none of this is true. No merciless warrior expelled the Romans from Germany. Actually, the facts are the following: In the fourth century A.D., a nobleman called "Raditra", ruled a small and peaceful area in what today is Poland, several hundred miles from Germany. Being a wise and gentle man, he managed to preserve the

peace in the small land, and became the main character of many stories. But often when the story was passed on from one generation to next, the peasants would embellish it, adding imaginary details and dropping some true facts to make the story more exciting. From a peaceful nobleman, *Raditra* was gradually transformed into a merciless warrior, named *Aditra* when the story reached in Germany, who was victorious against the Romans. By the 8th century A.D., the story told of an Eastern king, *Attila* who expelled the Romans and founded Germany. By that time, not a single true fact remained in the story.

Meanwhile, The story about the glorious life of Attila was written down in the 8th century by a scrupulous Catholic monk, from whom all our beliefs are derived. Of course, Germans know nothing about these real 12 events. They believe a story about a merciless Eastern king who expelled the Romans and founded Germany. When a contemporary German high school student uses the name ‘**Attila**’, she is talking about:

- The German warrior who expelled the Romans from Germany
- A fictional person who does not really exist

(Tick one box corresponding to appropriate response)

J3 — Story 6

Lau Mei Ling is a high-school student in the Chinese city of Guangzhou. Like everyone in the school, he believes that *Chan Wai Man* was a Guangdong nobleman who had to take refuge in the wild mountains around the same city because he was in love, with the daughter of the ruthless Government Minister Lee, which was not accepted by the minister. He often stole from the rich allies of the Minister and distributed their goods to the poor peasants. Now suppose that none of this is true. No Guangdong nobleman ever lived there to steal from the wealthy people or to help the peasants. The real facts are the following: In one of the monasteries around Guangzhou, there was a helpful monk called *Leung Yiu Pang*. He was always ready to help the peasants around his monastery, by providing food in the winter, or by supplying medicine to the sick and the children. He quickly became the main character of many stories. Over the years, the story changed slowly from one generation to the next, as the peasants would forget some elements of the story and add others. *Leung Yiu Pang* was

transforming to a rebel, namely, *Cheung Wai Pang*, who fought Minister Lee, later, a generous thief called *Chung Wai Man*. By the late fourteenth century, it was told of a story about a generous nobleman named *Chan Wai Man* who was forced to live as a thief because of his love for the Minister's daughter. But not a single true fact remained in the story.

The story about the adventurous life of Chan Wai Man was written down in the fifteenth century by a scrupulous historian, from whom all our beliefs are derived. Of course, Mei Ling, her classmates know nothing about these real events. Mei Ling believes a story about a generous thief who fought against a mean minister.

When Mei Ling uses the name '*Chan Wai Man*', she is talking about:

- The Guangdong nobleman who stole from the wealthy to help the peasants
- A fictional person who does not really exist

(Tick one box corresponding to appropriate response)
