Buhuth Mustaqbaliya (13) 2006
PP. [7-32]

Mental Spaces in Relation to Reference, Presupposition and Inference

Sama' Sadulla Ahemd[1]
Imad Rif'at[2]

الملخص

تبين هذه الدراسة أهمية المساحات الذهنية في معالجة معضلات المعنى عندما يندمج بالافتراض المسّبق والإشارة. ويهدف البحث كذلك إلى دعم حقل آخر ألا وهو الاستنباط من خلال وضع فرضية مفادها نجاح المساحات الذهنية في تفسير الاستنباطات المتوقعة للسامعين مثلما نجحت في تفسير الافتراضات المسبقة للمتكلم حول دراية السامعين. فضلاً على أن البحث يحاول استكشاف مدى معالجة المساحات الذهنية في حقول الإشارة والافتراض المسّبق والاستنباط بدراسة دور تلك المساحات ووظائفها في ظل ظروف وتنوعات كل صنف. وتخلص الدراسة إلى جملة من النتائج.

Abstract

The present work shows the importance of mental spaces in treating problems of meaning when unified with presupposition and reference. It also aims at supporting another area that is the area of inference postulating a hypothesis that claims the success of mental spaces in interpreting predicted inferences of listeners, just as they have succeeded in interpreting presuppositions of the speakers about the knowledge of the listeners. The study also investigates the extent of mental spaces processing within the areas of reference, presupposition and inference studying spaces roles and functions under conditions and varieties of each type. The study ends with a set of conclusions.

([1]) Assistant Teacher, College of Arts, Uni. of Kirkuk
([2]) Assistant Teacher, Department of English, Al-Hadba' Uni. College

Received: 16/4/2005
Accepted: 9/9/2005

1. Introduction

The promising development of cognitive semantics in the last fifteen years has given us important insights into some of the backstage organization of language and thought.

At present, cognitive science is beginning to flourish. Sophisticated accounts have been developed for mental representation, the nature of consciousness and the mysteries of cognitive developments. And, cognitive linguists seek to show how linguistic expressions evoke conceptual structures as natural reflections of cognitive abilities (Grundy and Jiang, 2001: 1).

Mental spaces have been proposed by Fauconnier (1985, 1994). His approach claims that language triggers a series of complex conceptual processes that activate language itself and the linguistic properties in use and mind. Mental spaces serve as problem solvers in most problematic areas of treating meaning relation to entities. They incorporate and integrate into a net work of links that as an endpoint facilitate interpretation of sentences, utterances and texts (spoken or written). Such manipulations are possible because they do not merely rely on the literal meaning of words or sentences and utterances, but on the activities of the discoursal interactions with all events, participants, contexts and linguistic properties.

Mental spaces have proved to be problem solvers in the areas of presupposition and reference.

1.1 The Problem

Since the employment of the concept of "mental spaces" by Fauconnier (1985, 1994), many studies have been geared to the study of mental spaces and their links.

The main concern herein is the study of the impact of mental spaces on different types and under conditions of reference, presupposition and inferences. Although recent studies pay a good attention to mental spaces, they have not shown or undertaken such employment and treatment of mental spaces. All recent works concentrate on a certain type of constructions and then give a full manipulation of those type constructions. Some semanticists have investigated mental spaces role and function with reference or in relation to certain types of reference or presupposition that they think to be the most problematic areas. The present study attempts to find answers to two questions: (i) do mental spaces and their links assign meaning to entities and events of all types of references and presuppositions; (ii) do mental spaces assign meaning to all types of inferences. Finding answers reveal mental spaces abilities to interpret meanings especially in the most problematic areas of reference, presupposition and inference.

1. 2 Aims of the study

The study aims at: (i) studying the workability and impact of mental spaces in assigning meaning to entities and events under the varieties and conditions of references and presuppositions; (ii) viewing the success of mental spaces abilities to assign meaning to

inferred entities and events, under the different conditions and varieties of inferences.

3. 1 The Hypotheses

Today, many works are conducted under the heading of mental spaces that is developing very rapidly and successfully. This study also attempts a better understanding of mental spaces through confirming: (i) mental spaces can function and assign meaning to different types of entities and events under the conditions of reference and presupposition; (ii) they are workable in assigning meaning to entities and events under the conditions and varieties of inferences; just as they are within reference and presupposition domains.

1. 4 Procedures

The paper under study presents a theoretical study. Thus,: (i) it presents types and conditions of references, presuppositions and inferences; (ii) it presents the role and function of mental spaces within the different types and under the conditions of references, presuppositions and inferences; (iii) some concluding remarks will be stated.

1. 5 Limits of the study

(i)Only the types and conditions of references, presuppositions, inferences and mental spaces are sketched; (ii) the role and function of mental spaces are stated; (iii) conditions of violating and flouting the maxims of implicature have not been taken into the scope of this study.

2. Some Pivotal Terms

2.1 Reference

Reference is a term that is used in philosophical linguistics and semantics for the entity (object, state of affairs, etc.) in the external world to which a linguistic expression relates: for example, the referent of the word "table" is the object "table". The term is found both as part of a two-term analysis of meaning (e. g, words – things) and in a three-term analysis (e. g, words – concepts- things). In grammatical analysis, the term "reference" is used to state a relationship of identity that exists between grammatical units; e. g, a pronoun refers to a noun or a noun phrase. Lyons (1977:177-197) proposes types of reference with relation to grammatical expressions: (i) singular and general reference to individuals and classes of individuals. The reference is definite if the expressions refer to some specific individual (or class of individuals); e. g., "His cat is white"; and the reference is indefinite if expressions refer to individuals and classes of individuals that are not specific; e. g, "Car is machine"; (ii) non-referring definite noun phrases which are those noun phrases that are "definite" and occur as complements of the verb "to be" serving a predicative function with an optional article, e. g, "John is the king"; (iii) distributive and collective general reference; e. g, "Those books cost 5$"; when the cost of each book is 5$, the reference is distributive and it is collective when the cost of all books is 5$; (iv) specific and non-specific definite reference is fulfilled by means of an indefinite noun phrase which makes a specific definite reference if its meaning involves particularity; e. g, "Every evening

a heron flies over the chalet", and makes non-specific reference if it does not refer to a particular "heron"; (vii) generic reference when expressions say something about the class of individuals; e. g, "Lions are beasts" and "a lion is a beast". In the domain of discourse, reference expressions direct the reader to look elsewhere in the text or context. Reference is represented in many ways; it pursues certain rules and devices by means of articles, deixis, pronouns, nouns or knowledge of any kind. Hence, reference is also classified into: (i) exophoric reference, as a shared knowledge between the speaker and hearer outside the given text or context; e. g, "People were courteous in the time of Georges", "the time of Georges" is the shared knowledge; (ii) anaphoric reference is a reference to something previously mentioned; e. g, "Bill is a student. He studies hard"; "he" refers to "Bill"; (iii) cataphoric reference is a reference to something which will be mentioned; e. g, "At this age, the surgical operation is difficult. He is past eighty"; "At this age" refers to "past eighty". (Halliday and Husan, 1976: 29f; Lyons, 1977: 177f; Crystal, 1991: 293-4; and Baker, 1992: 181).

2.2 Presupposition

The philosophical uses of this term are found in semantics, viz a condition that must be satisfied if a particular state of affairs is to obtain, or in relation to language what is actually asserted. Presupposition is treated as a relationship between two propositions. A sentence like "Bill's dog is cute" produces a proposition and presupposes another proposition that is, "Bill has a dog". Yule (1996:27-30) gives a list of the types of presupposition that are

associated with the use of words, phrases, and structures. The potential presuppositions can only become actual presuppositions in contexts with speakers: (i) the existential presupposition indicates the existence of something by means of any definite noun phrase or possessive constructions "The cat is here" and "His book is here"; (ii) factive presupposition indicates something can be treated as a fact and a number of verbs as "know, realize, regret, etc." in addition to phrases involving "be" with "aware, odd, glad etc." have factive presuppositions "We regret telling him the news" presupposes a proposition like, "We told him the news"; (iii) non-factive presupposition assumes something not to be true and can be expressed by verbs like "dream, imagine and pretend"; e. g, "He dreamed that he was a king" presupposes a proposition like "He is not a king"; (iv) lexical presupposition indicates the use of one form with its asserted meaning is conventionally interpreted with the presupposition that another (non- asserted) meaning is understood. It is conveyed by verbs like "managed to, succeed in etc."; e. g, "He managed to escape" presupposes a proposition like "He tried to escape" and "succeeded in doing so". Some other lexical items as, "stop, start, again" are presented with their presupposition; e. g, "He is late again", presuppose "He is always late"; (v) structural presupposition refers to certain sentence structures have been analyzed as conventionally and regularly presupposing that part of the structure is already assumed to be "true", when a proposition is assumed to be true and accepted as true by the listener. Wh-questions express such type of presuppositions; e. g, "When did you

leave?", presupposes "He left"; (vi) counterfactual presupposition means that what is said is not only not true, but is the opposite of what is true, or contrary to facts; conditional structures with "if-clause" presuppose what is not true at the time of utterance; e. g; "If you were my friend, you would have helped me" presupposes "You are not my friend" (Crystal, 1991: 276 and Yule, 1996: 26-30).

2.3 Inference

Inference is the listener's use of additional knowledge to make sense of what is not explicit in an utterance or text (Yule, 1996: 131). Just as the speaker presupposes propositions about the hearer's knowledge, the listener is also expected to make inferences from the speaker's utterance by going through to get from the literal meaning of what is said or written to what the speaker or writer intended to convey. Sometimes inference is direct, the listener can predict what the speaker intended from a co-reference as with anaphoric, cataphoric and exophoric reference types. Problems show themselves when there is no direct reference, for example, to an antecedent. Then, a bridging assumption is required; i. e, bridging inference; e. g, "I looked into the room. The ceiling was very high"; these sentences predict the existence of a ceiling in every room as background knowledge. Such an inference is called an automatic inference since the listener can make an "automatic connection" between the two sentences. Yet, some linguists refuse to refer to such types of automatic connections as types of inference. When background knowledge is incapable of providing such an automatic connection, the listener tries to process the context to predict a "non-

automatic connection" in order to interpret what the speaker intended to mean; e. g, "Bill got some picnic supplies out of the car. The beer was warm". Here, the missing link can be predicted by making a bridging assumption. Then, the non-automatic connection will reveal a kind of inference after the process of bridging an assumption between "picnic supplies" and "the beer" = "Picnic supplies include beer". Linguists classify such types of prediction under the title of inference since the listener/ reader has to undertake some additional interpretive work in processing the text. It is a filling gap process that represents the open-ended aspect of the inference. Given this open-ended feature of inference, it is very difficult to provide the set of actual inferences that a listener/ reader can make in arriving at an interpretation (Brown and Yule, 1983: 256f). For a better understanding and interpretation of inference, some linguists suggest to encompass the "Cooperative Principles" that have been proposed by Grice in (1975). It is an approach to the speaker's and hearer's cooperative use of inference. He has put forward four maxims of implicature: (i) maxim of quality; i. e, to make your contribution one that is true; (ii) maxim of quantity; i. e, to make your contribution as informative as is required for the current purpose of the exchange; (iii) maxim of relevance; i. e, to make your contribution relevant; (iv) maxim of manner; i. e, to be perspicuous and avoid ambiguity, and obscurity; be brief and orderly. For example, the inference of: "Did you do the reading? - I intended to", is "No", and the inference of: "Can I borrow some money? - My purse is in the hall" can be "Yes" if there is nothing to cancel it in the following sentences of the text. In

first example, the inference is about the maxim of quantity whereas in the second it is about the maxim of relevance (Saeed, 1997: 191f).

2.4 Mental Spaces

They are conceptual structures that speakers set up to manipulate reference to entities, including the use of names, definite descriptions, and pronouns. They are proposed by Gilles Fauconnier (1985, 1994). According to him, language serves as a recipe for constructing meaning. This recipe relies on a lot of independent cognitive activity. The process of meaning construction is a "discourse-based" process implying that a single sentence cannot be clearly analyzed without recognizing its relationship to and dependency on earlier sentences. Entities are referred to in the language by maintaining several relevant domains or "mental spaces" of sentence clauses. This means that there is inherent flexibility in our use of referring expressions. Language triggers a series of complex cognitive procedures through which mental spaces are formulated with their elements. Mental spaces of a sentence, utterance or a text are linked to each other in certain ways. Fauconnier distinguishes between the terms of "trigger"; i.e, what is represented in reality, and the "target" that is the image described in the context. He has also proposed "Identification principle" (ID) or "Access principle" that is an expression which names or describes an element in one mental space can be used to access a counterpart of that element in another mental space as "Bill" and "He" in "Bill is a student. He studies hard". Hence, if two elements "a" and "b" as "Bill" and "He" are linked by a connector "F" (b= F (a)), the element "b" can

be identified by naming, describing, or pointing to its counterpart "a". "F" is a pragmatic function which links "a" and "b". When elements and relations of a mental space are organized, a package we already know; that the mental space is "framed" and that organization is called a "frame". For example, "Joe ate a pizza in France yesterday" has the individual elements framed by "eating". Spaces are built up from many sources which are either known as conceptual domains we already know as a background knowledge, or as elements of a sentence or a text proposes; in the example mentioned above, there is a space created by the utterance, a space with a location of "France", a time of "yesterday" and "Joe" filling the role of the predicator of "eating a pizza". Each of these refers to their respective referents. There can also be a "referential shift" by identification principle; e. g, "Len believes that the girl with blue eyes has green eyes" has a "person"/ "image" connector. But, "the girl in the photo has green eyes", represents a "referential shift". The "person/image" reference in reality is shifted to an "image/person" reference in the photo. Some other sources of mental spaces are "space builders" like prepositional phrases, adverbials, connectives and certain verbs like "believe, hope and imagine". In addition, "base" space is that associated with the names in a sentence as; "Romeo loves Juliet". And, if spaces are stacked inside one another, the including space will be the "parent space" which is the "reality": "Barry's in the pub. His wife thinks he is in the office". The initial space "Barry is in the pub" is the speaker's reality (R). Then "his wife thinks he is in the office" sets up a new mental space (M1) with the counterpart "Barry

is in the office". The speaker can develop either the space "talking about what Barry is doing" in (R), or "what Barry is supposedly doing" in (M1) (Saeed, 1997: 319-330; Fauconnier and Turner, 2002: 1-17; and Ettlinger and Sweester, 2003: 7).

3. Links and Connections of Mental Spaces

Mental spaces are constructed for a better understanding of meaning with reference to entities; i. e, there are some types of links that hold among the mental spaces and the elements of mental spaces in utterances or texts. After the constitution of a mental space, the pragmatic function (F) links the elements of the space with each other. And the space itself would be connected and associated with some other spaces via connectors as the space elements and events references. Fauconnier (1994:91) suggests "optimization principle" for floating or sharing of presuppositions between spaces when a daughter space (M1) is set up within a parent space (R), structure (M1) implicitly so as to maximize similarity with (R). In particular, in the absence of explicit contrary stipulation, assume that (i) elements in (R) have counterparts in (M1); (ii) the relations holding in (R) hold for the counterparts in (M1); (iii) background assumptions in (R) hold in (M1). For example, "She called him before leaving Paris" presupposes that "She left Paris" and this is true and valid not only in the connected spaces but also in (R) so that it floats to (R). Yet, optimization explains not only the sharing or floating of presuppositions but also the floating of inferences when inferred propositions about space elements float from one space to another; e.g. "If you are hungry, we are having dinner at six". The inference

here is "Join us at six" (ibid: 126). Depending on the real intention of the speaker, the inference of the connected spaces floats to (R) for being valid in (R). Optimization works unless it is blocked by cancellation accounts that may occur not only with presuppositions but also with inferences when a proposition is falsified contextually or by some other factive proposition in (R). "The king of France is bald" presupposes that "There is a king in France". This presupposition cannot float to (R) for not being valid in (R). The inference of "Before going to Paris, she talked to the doctor" can be "She had taken the permission from the doctor to go to Paris" or "The doctor had advised her to go to Paris". Yet, such inferences may not float to (R) if a fact like "She is in love with the doctor" cancels it. Fauconnier (ibid: 105) also refers to some cases of "presupposition transfer" that are distinct from floating. The presupposition, in such cases, is not valid in (M1) but in (R). It occurs when there is a referential shift with beliefs and images in pictures and paintings; e.g., "In this painting, Olga is beautiful" the presupposition "She is not beautiful" is true and valid in (R) but not in the connected spaces (M2) and (M1). Links and connections of spaces provide good interpreting analyses for the problematic areas of reference, presupposition and inference. Hence, analyses of mental links will show the interaction of semantics and pragmatics with discourse structure. Links facilitate manipulation of intentions, presuppositions, inferences, predictions and comprehension

3.1 Mental Spaces and Reference

Mental spaces give a special manipulation of reference; thus, the meaning can be clarified through constructing mental spaces of utterances or texts. Each kind of utterance or text makes a reference, i. e, provides meanings. Yet, how can this be achieved? Constructing mental spaces of utterances or texts reveals such achievements; e. g:

1. The cat is white.

"The cat" (C) is an existential trigger element in reality (R=M). It is also a target element in (M1). "White" (W) is the colour element that identifies (C) in (M1). The pragmatic function (F) links (C)/ (W) in (M1) making a definite singular reference to (C) in (R) and connects (M1) with (R).

2. John is (the) king.

In (M1), "John" is a person (P) and "(the) king" (K) is an identifying element for (P). (F) links (P)/ (K) in (M1) performing an indefinite singular identifying reference to "the king" in (R) if an indefinite (P) is supposed to be "the king" in (R). Thus, (F) connects the two spaces (M1) and (R) with each other. If (P) is linked to "king" in (M1), then (F) performs a predicative identifying function. It links (P)/ (K) in (M1) without making a reference to a particular (P) in (R). Since (P)/ (K) do not identify (P) in (R), (F) does not connect (M1) with (R) showing a non-referential function in (R).

3. Those books cost $5.

In (M1), "Those books" (B) is the target element and identified with the cost element "$5" (C). (B) is the existential trigger (B) in (R).

(F) links (B)/ (C) in (M1) making either a distributive reference to the cost of each (B) or a collective reference to the cost of all (Bs) in (R). Thus, it connects (M1) with (R) via such distributive or collective reference.

4. Every evening, a heron flies over the chalet.

"Every evening" is a space builder and sets up the space of time (M1) with the time element (T) that identifies the time of action in (M2). Thus, (M1) is connected to (M2). In (M2), the elements are "a heron" (H) and "over the chalet" (P). They correspond to existential elements in the present parent space of reality (R). (F) links (H)/ (P) in (M2) making a specific reference to (H) in (R) if a "particular" (H) flies "over the chalet". It makes a non-specific reference to (H) in (R) if "not a particular" (H) is meant but any (H). Hence, it connects (M1) and (M2) with (R) since (M1) and (M2) make a reference to elements and an action in (R).

5. Lions are beasts.

6. A lion is a beast.

Both 5 and 6 show that "Lions/ A lion" (L) is a target element in (M1). "Beasts/ a beast" (B) identifies (L) in (M1). (F) links (L)/ (B) and makes a generic reference to the trigger class of lions in (R) connecting (M1) with (R).

7. People were courteous in the time of Georges.

The elements in (M1) are "People" (P), "courteous" (C) and "time of Georges" (T). (P) is also an existential element in the parent space of present reality (R). (F) links the elements in (M1) and identifies (P) with (C) at (T) making an exophoric reference to (R) that

is based on the background knowledge. It indicates a contradictory identifying reference to (P) in (R) showing that (P) is not identified with (C) anymore. Hence, it indicates a referential shift from past to present=(R).The exophoric referential shift connects (M1) with (R) envisaging the contradictory identification of (P).

8. Bill is a student. He studies hard.

In (M1), "a student" (S) identifies the person "Bill" (P). In (M2), "He" (H) is an element identified with the action "studies hard". (H) in (M2)=(P) in (M1) and makes an anarophic reference to (P) connecting (M1) with (M2). If (P) is an existential element in (R), the reference connects (M1) and (M2) with (R).

9. At this time, the surgical operation is difficult. He is past eighty.

"At this time" is a space builder with the time element (T). It sets up (M1). In (M2), "difficult" (D) identifies "the surgical operation" (O). (F) links (T) with (O) and (D) since (O) is (D) at (T)."He" is a person (P) identified with the age element "past eighty" (A) in (M3). Yet, (T) in (M1) = (A) in (M3) making a cataphoric reference to (A) and connecting (M1) with (M2) and (M3). The connected spaces will make a reference to (R) via cataphoric reference if (P) is an existential element in (R). Thus, (O) for (P) is (D) at (T) that equals (A) in (R).

The idea of mental spaces has an important advantage within the problematic areas of reference especially when one tries to distinguish the meaning in ambiguous sentences or two different

worlds that cause referential opacity. Mental spaces and their links and connections can solve such problems:

10. Jack likes Greenland.

This sentence shows ambiguity and involves two types of reading and links; a "specific" or "transparent" reading with a referential link, and a "non-specific" or "opaque" reading with a non-referential link. In the transparent reading, "Jack" is a trigger person (P) in (R) and a target (P) in (M1). "Greenland" (G) is the element of ambiguity. It is a target name of place in (M1) and makes a reference to the trigger (G) in (R) since it is a name of place in (R). (F) links (P) with (G) identifying the place that (P) likes in (R). It also connects (M1) with (R) performing a referential function. In the opaque reading, (G) in (M1) is not a name of place but a place property; then, it does not refer to a particular element in (R). It just makes a reference to the property of the land that (P) likes. (F) links the two elements in (M1) giving the property of the land that (P) likes . The speaker does not mention the location of (G) in the proposition space. Thus, (F) does not connect (M1) with (R) performing a non-referential function.

11. The captain believes that a detective is taking bribes.

This sentence also involves two types of reading and links. "Believe" is a space builder and sets up (M1). "The Captain" (C) is an element in (M1). "A detective" (D) and "bribes" (B) are elements in (M2). (B) identifies something related to (D). In the transparent reading (C) suspects a "particular" (D) and knows the identity of the (D) that he suspects in (R). Thus, (D) in (M1) makes a reference to

a trigger (D) in (R). (F) links (D) with (B) and connects (M1) with (M2) identifying (C's) belief. In addition, it connects (M1) and (M2) with (R) via the performance of a referential function. In the opaque reading, (C) suspects "one of" the (Ds) but he does not know which one. Thus, (F) links (D) with (B) in (M2) and the elements of (M2) identify the captain's belief (M1). (F) performs a non-referential function since the connected spaces (M1) and (M2) do not make reference to (R).

In mental spaces approach, these two interpretations do not arise from any ambiguity in the sentence but from two different space connecting strategies that hearers may use. Such ambiguity in reference is an instance of referential flexibility which shows itself when speakers make use of the semantic structures of their languages (Saeed, 1977:318- 326).

3.2 Mental Spaces and Presupposition:

Other further advantage of the mental spaces approach is that it unifies the account of referential link with an analysis of presupposition especially when a speaker's presupposition is associated with two different worlds or with the referential opacity.

1. His book is here.

"His book" (B) and "here" (P) are elements in (M1).The proposition in (M1) presupposes the existential presupposition "He has a book". Optimization works and the presupposition floats from (M1) to (R) since the element (B) exists in (R) and the presupposed proposition is true and valid in (R).

2. We regret telling him the news.

(M1) with the elements "We" (P) and "telling him the news" presupposes a proposition like "We told him the news" which is a factive presupposition. This presupposition is true in both (M1) and (R). Thus, it floats to (R) making a reference to the reality of the verb "regret".

3. He dreamed that he was a king.

"He" (P) and "he was a king" (K) are elements in (M1). (F) links (P)/ (K) and presupposes a non-factive presupposition with the verb "dreamed" in (M1) implying that "He was a king" is not true in (R). Therefore, the non-factive presupposition does not float to (R) and optimization is blocked by the cancellation principle because of the incompatibility of the presupposition in (R).

4. He managed to escape.

"He" (P) and "escape" are elements in (M1) and (R). (M1) presupposes a proposition like "He tried to escape". This is a lexical presupposition with the verb "managed" in (M1) and floats to (R) asserting the success of management.

5. When did he leave?

The presupposition of (M1) is "He left". It is a structural presupposition depends not on one lexical item but on the constructed structure as a whole. The presupposition floats to (R) since "he" (P) is an existential element in (R) and the presupposed proposition is true and valid in (R).

6. If you were my friend, you would have helped me.

The connected spaces (M1) and (M2) presuppose counterfactual presuppositions since what is presupposed is not only not true, but is the opposite of what is true, or contrary to facts (Yule;1996:29). The counterfactual presupposition here is "You are not my friend". It is not true and contrary to the fact in (R) so that optimization does not work and cancellation principle blocks floating to (R).

7. He likes Greenland.

The factive presupposition of (M1) is "There is a Greenland". If "Greenland" (G) is a name of place in (R), (M1) will make a true reference to (R) and the presupposition floats to (R). If (G) is not a name of place in (R) but a property of land in the imagination of the speaker or in a film or picture, (M1) will not make a true reference to (R). Fact in (R) cancels optimization and blocks floating of the presupposition to (R).

8. The captain believes that a detective is taking bribes.

The connected spaces (M1) and (M2) presuppose a proposition like "There is a detective". If "the captain" (C) knows "the detective" (D), (M1) and (M2) make a true reference to (R) and the presupposition floats from (M2) to (M1) and then to (R). If (C) does not know the (D) in (R) but suspects the existence of a bribe taking detective, (M1), (M2) will not make a true reference to (R), and the presupposition will not float to (R). The fact in (R) blocks floating.

9. In this painting, Olga is beautiful.

The connected spaces (M1) and (M2) presuppose a proposition as "Olga is not beautiful ".This proposition is true and valid in (R) but not in the connected spaces (M1) and (M2). It is a presupposition transfer since the presupposition is not valid in (M1) and (M2) but in its parent space (R).

3.3 Mental Spaces and Inference:

Mental spaces also integrate into the predicted inferences that the listener predicts just as the speaker's account of presuppositions. Prediction is not easy but mental spaces can help to get the acceptable and the expected predictions or inferences that a listener makes.

1. Bill is a student. He studies hard.

"He" is an anaphoric reference to "Bill". (F) connects (M1) with (M2) via this reference. It also connects (M1) and (M2) with (R) if "Bill" exists in (R). The anaphoric reference helps the listener to make the direct inference "Bill studies hard". Optimization works and this inference flouts to (R) since it is true in (R).

2. I looked into the room. The ceiling was very high.

The automatic inference here is "The room has a ceiling". It depends on the general background knowledge "Every room has a ceiling". The inference is valid in (R); thus, it floats to (R).

2. Bill got some picnic supplies out of the car. The beer was warm.

"The bear" in (M2) makes a reference to "some picnic supplies" in (M1). Bridging assumption links two spaces inferring that

"The picnic supplies include beer". This inference is valid in the connected spaces (M1) and (M2). It floats from (M2) to (M1) and then to (R) if (M1) and (M2) are valid and true in (R).

3. He likes cartoons. Dragons are beasts.

"Dragons" (D) are identified as "beasts" (B) in (M2). "D" makes a reference to "cartoons" (C) in (M1). Bridging assumption links the two spaces producing an inference as "He likes cartoons of dragon beasts". The inference floats from (M2) to (M1) and then to (R) via (C) since (D) as (B) are valid in (R) only as (C). (Cs) are valid and true in (R) but not (D) and (B). (D) and (B) cannot attain a direct reference to (R) since they do not exist in (R). Otherwise, the reference is not true and the inference is invalid in (R).

4. The captain believes that a detective is taking bribes.

The context decides the type of inference here. Bridging assumption links the captain's belief in (M1) with a bribe taking detective in (M2) making inferences like "The captain intends to accuse a particular detective" or "The captain's plans fail so that he suspects one of the detectives". If the captain knows the detective, the connected spaces make a true reference to (R) and such inferences float to (M1) and then to (R) for being true and valid in (R). If the captain does not know the detective then the inferences float to (M1) but not to (R) because they will not be true or valid in (R).

5. Did you do the reading? – I intended to.

The inquiry space (M1) requires a "yes/ no" answer space (M2). The lexical verb "intended" in the past tense implies a "No" answer violating the maxim of quantity if the speaker has really

intended to do the reading. The inference is "No, I did not do the reading". It floats to (M1) and then to (R) if the intention is realy true and valid in (R).

6. John is a fine friend.

Under the maxim of "quality", "fine friend" (F) is a predicative reference to John (P) which should be true if not falsified then in some following text (Palmer,1981:174). Apart from irony that the proposition may imply, optimization will not work and the inference will not float to (R) if (P) does not exist in (R). But, if it exists in (R), inference will float to (R).

7. Can I borrow some money? - My purse is in the hall.

Under the maxim of "relevance", the inquiry space (M1) requires a "yes/no" answer space (M2). Bridging assumption links the two spaces to produce inferences depending on the context and the intention of the replying person. The implied inference is "Yes" if the speaker's intention is a request for fetching the purse or for taking the money from the purse in the hall. The implied answer is "No" if the intention is to prevent the first person from taking the money. Depending on the intention, the implied inference floats from (M2) to (M1) and then to (R) since it is true in (R) as yes or no.

These three last examples are treated without making a reference to violation or flouting conditions of implicature maxims because the study of such conditions implies some other contexts and texts where violation and flouting take place within stretches of texts or conversations. Therefore, the expression of "implied inference" is used instead of the term "implicature".

4. Some Concluding Remarks

The approach of mental spaces is one of recent approaches in the field of cognitive semantics and pragmatics in spite of the mass of works that go on under the heading of mental spaces. The study has investigated the function of mental spaces in assigning meaning to entities and events while considering references, presuppositions and inferences. It has been able to come up with some promising conclusions:

1. Mental spaces are considered under the shade of cognitive semantics and pragmatics, thus, a reader anticipates some roles and functions to be assigned to such conceptual spaces because this cognitive approach seeks functions. The study has actually tried to reveal the functions of mental spaces in relation to some important terms that are fundamental in semantics and pragmatics. Doing so, the study achieves two goals; that of the cognitive semanticists and pragmaticians interest in functions and confirms what is hypothesized in the introductory section of this study.
2. Mental spaces and their links and connections activate the propositions clarifying the ways of assigning meaning to entities, utterances and texts in an easy a simple process.
3. Mental spaces approach is one of important approaches for manipulating meaning of ambiguous and obscure sentences and utterances just as the examples of two worlds' realities and referential opacity show. This is because they are not concerned only with the literal meaning of words or even sentences and

utterances but with the whole discourse interaction taking into consideration participants, events, context, background knowledge in addition to linguistic and grammatical properties of a language sentences and utterances.

4. The study of the links and connections of spaces are applicable to the meaning of propositions with relation to referents, referential worlds and presuppositions where the meaning of the components of such terms will be understood more clearly and easily in the light of spaces links and connections.
5. The study confirms its hypothesis that states the importance of mental spaces in interpreting listeners' inferences and predictions. The logical assumption supposes the success of the mental spaces in processing inferences just as they do with references and presuppositions. Links and connections of mental spaces show the relation of inferences with their stated propositions and the worlds of reality. Thus, the study has proved to be successful in a achieving the aims and hypotheses of the present study.
6. Mental spaces is a very promising approach and much more attention and studies will show themselves in the future processing and treating some more untouched areas and disciplines with good extensions in different fields of linguistics as the gross recent works proposes.

Bibliography

Baker, Mona (1992). **In other Words**. London: Routledge.

Brown, Gillian and Yule, George (1983). **Discourse Analysis**. Cambridge: Cambridge University press.

Crystal, David (1991). **A Dictionary of Linguistics and Phonetics**. Oxford: Blackwell publishers Ltd.

Ettlinger, M. and Sweester, M. (2003). **Interpreting "Deixis in Mental Spaces".** Mind and Language. Cognitive Science 201, Final Paper, http://istsocrates.berkeley.edu~marce/ling/papers/105pdf.

Faucounnier, G. (1985). **Mental Spaces**. Cambridge, Mass: MIT Press.

Faucounnier, G. (1994). **Mental Spaces**. New York: Cambridge University Press.

Fanconnier, G and Turner, M (2002). **The Way We Think**. New York: Basic Books.

Grundy, P. and Jiang, Y. (2001). **"Cognitive Semantics and Deictic Reference**. The Bare Past as an Ideological Construction in Hon Kong discourse". In Dirven, R., Frank, R. and Ilie, C. (eds.), Language and Ideology: Descriptive CognitiveApproaches.Vol.2.www.tulane.edu/~howard/LanIdeo/GrundyJiang/GrundyJiangAbs.html.

Halliday, M. A. and Hasan, R (1976). **Cohesion in English**. London: Longman.

Lyons, J. (1997). **Semantics**, Vol.1. Cambridge: Cambridge University press.

Palmer, F.R. (1981). **Semantics**. Cambridge: Cambridge University press.

Saeed, J.. I (1997). **Semantics**. Cambridge: Blackwell Publishers Inc.

Yule, G. (1996). **Pragmatics**. Oxford: Oxford University press.