Identity and Speech Maxims: A Linguistic Analysis of Communication in Pinter’s The Caretaker

Dr. Ghulam Murtaza 1 Qasim Shafiq 2 Dr. Ali Usman Saleem 3

1. Associate Professor, Department of English, Government College University Faisalabad, Punjab, Pakistan
2. Ph. D Scholar, Department of English, National University of Modern Languages, Islamabad, Pakistan
3. Assistant Professor, Department of English, Government College University Faisalabad, Punjab, Pakistan

PAPER INFO

ABSTRACT

The Caretaker by Harold Pinter is a representative play of the Theatre of the Absurd rich in communication gap and breakdown of language resulting from the failure of human relationships in the wake of post-World War II conditions. Pinteresque language is marked with the incessant flouting of communication principles, tautological repetition based on real speech pauses, silences. Non-observance of Gricean maxims is employed by Pinter’s characters to conceal their real identity because the loser in a contest of words and their meaning loses his claim to live. In this sense, Pinter’s language is a weapon to fight the battle of social space and image through concealment of intention and/or half-communication or conscious miscommunication of intention. Therefore, everyone is deceiving everyone else. Aston, incapable of facing and hence communicating to others because of hospitalized violence on him, is monosyllabic throughout the play except in his soliloquy wherein he speaks to himself. Davies’s language is incoherent like his dress but superfluous and shows excessively repetitive violation of the maxims especially of quantity in view of Aston’s weak persona. Speech maxims are flouted for Identity because of mental vacillation, to conceal linguistic incapacity, for supremacy and power, and for evasion.

Keywords: Flouting of Speech Maxims, Pinteresque, Pragmatics, Theatre of the Absurd

Corresponding Author
qasimmirzaa@gmail.com

Introduction

Pinterese or Pinteresque language was born out of the tragic history of Europe that after the War was coming out of fear but doors were still closed for fear of outsiders. The seemingly meaningless absurdist language is rich in meaning even in its silences and pauses. Language in Pinter, in particular, is seldom meant “for the straightforward purpose of giving information,” says Hammond (1972), an
expression of the rejection of ‘worn-out’ language as well as a form of drama. This ‘unreliable’ language that better communicates tragic human condition in the post-WWII scenario gets its Pinteresque flavor through deviant speech patterns: broken syntax, repetitions, unexpected pauses and flouting of normal speech principles. Pinter (1991) places his innovative repetition in real-life speech, thereby bringing the text to day-to-day linguistic practices in contrast with the traditional coherence of ‘well-made’ rhetorical text. Therefore, he calls his work “realistic, [though what he is] doing is not realism” (Raby, 2001, p.75). His language is a weapon to fight the battle of intention. The subtle economy of language in Pinter’s subtext is marked with minimalist naturalist dialogue (Esslin, 1982, p. 169). Employment of the quirks of the colloquial (Panwar, 2010) English vernacular in Pinterese has been misinterpreted as “a language of non-communication” (Kyllesdal, 2012, p. 5). The surface triviality of language with long pauses dramatically produces a heightened feeling of threat (Kyllesdal, 2012, p. 5). The intelligibility of the plays lies in connecting the silences with utterances because Pinter’s characters strengthen their presence in silence (Pinter, 1991, p. 7). Pinter defies the idea of transparency of language (Vargas, 2011) because, he thinks, fear of self-revelation makes language deplorably unreliable, which is at best a cover to conceal incompetence. Stressing need not to show more than the character wills produces tautologies, non-sequiturs and silences, reflecting the character’s battle for presenting acceptable identity.

Literature Review

Esslin (1969) observes that the ‘Theatre of the Absurd’ is a dramatic expression of contemporary philosophy’s rejection of language as a logical instrument of discovering reality. Pinter in this tradition is right to believe and demonstrate that “language is incapable of establishing true communication among people” (p. 11). Wasserman comments that fragmentary language in this tradition produces a humorous situation and is then turned against itself in farce (1975, p. 47). But this apparent comicality for the audience is achieved at the cost of a life-and-death crisis for the character.

Kaul and Pandit (2006) analyze the non/communication pattern in The Zoo Story, Endgame and The Chair and find that in Theatre of the Absurd the addressee’s inability to get at the implicature leaves him two options: skipping out of interaction or requesting for clarification. Then the ‘repair’ strategy decides the finale of a chain of utterances: closure or continuation of communication (p. 17). The Chair has a lot more occurrences of the violation of politeness principles than the flouting of cooperative principles. Ouiza (2012) in her comparative work on The Caretaker and The Zoo Story finds violence to identity results from the failure of cooperative principles and speech maxims. Albee’s language shows his focus on power relationships, says Ouiza (p. 102).

Pinterese has been studied from various facets of language. Aydin (2006) analyzes how power is exercised through language in Pinter’s plays. Mireia (2013/14) endorses Aydin’s study with the finding that Language in Pinter is a
battlefield for dominance. Kyllesdal’s (2012) is also related to understanding that the sadistic expressions of Pinter’s characters reflect their struggle for self-maintenance (p. 103). Pinter’s unique “use of common man’s language” (George, 2014, p. 86) is meant for attack and defense (Panwar, 2010). Pinter’s language is the blend of Theatre of the Absurd and the English vernacular of day-to-day speech. His characters desperately fumble for correct expression and mostly fail; language is incapable of communication and hence of building a true relationship (Tezi, 2007, p. 11). Pinter’s dialogues are non-logical because the emotions they seek to communicate are too intense for logical language to grasp. His language works through the pragmatic inference rather than normal semantic patterns (Mostofi, 2009). These inferences reflect the characters’ fears and anxieties.

Material and Methods

Pragmatics studies meaning in context and how context colors or determines it. Pragmatics includes the study of implicature, presupposition, entailment, deixes and speech acts. It studies contextualized meaning because i- speaker’s intention is an ingredient of meaning-making; ii- the listener’s inference from the implicature and the context of the statement. Normal communication depends upon following the cooperative principles but people also flout, infringe, violate or opt out of cooperative regulations resulting in implicature. Grice defines the cooperative principle as making conversational contributions “such as is required, at the stage at which it occurs, by the accepted purpose or direction of the talk exchange in which you are engaged” (Grice, 1991, p. 26). Effective communication in a smooth flow of social interaction requires following what Grice has theorized as four maxims of speech known as cooperative principles. They are the Maxims of Relevance, Manner, Quality and Quantity (Grice, pp. 26-27).

The maxim of relevance means speaking following the context. The maxim of manner requires speaking in an orderly unambiguous manner. The maxim of quantity requires giving information as much as required, neither more nor less. The maxim of quality means giving true and accurate information. Speakers flout these maxims not to mislead their listeners but to let them seek and unfold the implicature within the linguistic social contract. But violating a maxim, the speakers mislead the listeners. Suspending a maxim means to avoid saying anything for cultural or personal reasons. A speaker unwilling to cooperate opts out of maxims. Unintentional deception of the listener because of failure to observe a maxim is termed as infringing the maxims. Implicature means implying more or less than what is said. A conversation becomes possible through participants’ compliance with cooperative principles. Conversational implicature refers to an indirect expression that requires the listener to derive the implied meanings (Grice, p. 26). The locution of a speech act refers to the content of a meaningful utterance; the intention or purpose behind the content is an illocutionary act and its effect on the listener is a perlocutionary act. The speaker and listener observe them and expect each other to cooperate on the socially defined grounds of intelligibility. The conversation is not so simple and smooth in structure as these four maxims suggest. Grice gives sub-maxims under a super-maxim. In the super-maxim of Manner
related to ‘how’ rather than ‘what’ he includes the sub maxims of avoiding obscurity and ambiguity, and observing brevity and orderliness. Grice then has to add: “And one might need others” (p. 27). The complex phenomenon of language needs nuanced analysis for understanding. But literature being a deviant mode of expression flouts violates or infringes them for suggesting deeper insights into human affairs and it is more so with Pinterese. This article is an attempt to understand how Pinter’s character Davies fights for his identity through flouting of speech maxims.

Analysis

Pinter’s The Caretaker is a rich expression of the flouting of speech maxims. Ouiza’s (2012) observation is very sane about the deviations of maxims: “[T]he characters [in The Caretaker] practically flout every maxim of conversation in every dialogue” (p.87). Here follows one demonstration of this claim: When Aston’s direct interrogative speech act seeks his departure plan, Davies deceptively flouts the maxims of quantity, quality, manner and relevance:

Aston: Where you going to go?

Davies: Oh, I got one or two things in mind. I’m waiting for the weather to break.

Pause.

Aston: (attending to the toaster). Would . . . would you like to sleep here?

Davies: Here?

…

Here? Oh, I don’t know about that.

Pause.

How long for? (Pinter, 1991, p. 16)

Davies’ simultaneous multiple flouting in response to Aston’s simple question suggests his struggle to save his face, to conceal his true intention and to delay clarity till he can find a more suitable utterance to respond. Flouting the maxims, he makes a misperception for Aston that it is the weather that is holding him up and gets the desired perlocution in the form of the offer to stay there. The pause here is the silent space for the two interlocutors to reach something meaningful. Aston’s repeated modal verb ‘would’, a request marker, with an ellipsis, gets in response apparently meaningless “Here?” but serves for Davies to take his time to think and to give a false sense that he is not that interested. Disharmony between illocution and perlocution complicates Davies’s language: “Here? Oh, I
don't know about that.” The utterance again flouts the maxims of quantity, quality and manner: the interrogative “Here?” is not really to interrogate; he knows actually that his intention is to ensure his stay here. He leaves it for Aston to say; that is what the ”Pause” here is meant for. But when he does not get a response - which may be interpreted as Aston’s flouting of manner, quantity and relevance - he desperately has to put it himself: “How long for?” This question retrospectively ascertains his floutings in the previous utterance.

Most of Pinterese is open to such multiple floutings but for do ability and delimitation of this article, the focus is on identity through flouting of maxims. Out of the trio of The Caretaker, Davies is in most desperate need to assert his identity. Davies’ flouting and shifting from topic to topic cause incoherence and communication gap resulting in Aston’s flouting of the maxim of relevance which is his effort to adjust with Davies’ speech deviations. Without any context, Davies at the beginning of the play starts abusing people at the monastery at Luton and then shifts to a shoe-maker, who is a friend of his and lives “at Shepherd’s Bush” (p. 13), not leaving any hint any coherence between these places. Perlocutionary effect of this suggestion is that Aston cooperatively answers that he“ might have a pair” but Davies opts out of the shoe issue and switches to his papers:

Aston: Your what?

Davies: I got my papers there!

Pause

Aston: What are they doing at Sidcup?

Davies: A man I know has got them. I left them with him. You see? They prove who I am! You see! I am stuck without them. (pp. 19-20)

Davies’ appearance which constitutes the context does not validate his claim that he has also got ‘papers’, the claim that is questioned by Aston: “Your what?” Apparently very clear and confident answer - “I got my papers there!” - is followed by ‘Pause’ which carries the real meaning: Davies has got nothing to add to qualify his claim and Aston is waiting for the explanatory continuity of the statement, both features necessitating a pause. When Aston against the normal linguistic expectation gets no explanation, he asks for the reason and Davies piles expletives flouting the maxims of quantity and relevance to deflate the authenticity of his utterance. Not as a perlocutionary effect of Davies’ claim but to address his loneliness, he believes it against the implicature generated by Davies’ floutings. Papers signify identity and Davies himself admits this signification suggesting his crisis of identity. Even other than this almost explicit symbol, Davies is throughout the text flouting for his make-believe identity. When, for instance, Aston flouts the maxim of manner, Davies too flouts it falsely suggesting his independent opinion;
Aston: You . . . er . . .

Davies: Eh?

Aston: Were you dreaming something?

Davies: I don’t dream. I have never dreamed.

Aston: No, nor have I.

Davies: Nor me. (p. 22)

Aston’s ellipsis in “You . . . er . . .” flouts manner to save face but Davies’s interrogative “Eh?” threatens face: both have contrastive social functions of offering and snatching social space. Davies’ deceptive response of ‘not dreaming’ flouts the maxim of quality and asserts it through repetition. Aston accepts this false claim against the context of his experiential understanding. He observes politeness for his own social need and Davies flouts to assert his independence:

Davies: Now, wait a minute, wait a minute, what do you mean? What kind of noises?

Aston: You were making groans. You were jabbering.

Davies: Jabbering? Me?

Aston: Yes. (p. 22-23)

Aston’s question simply seeking information becomes a face-threatening act for Davies who consciously responds with a face-threatening act: “Now, wait a minute”. His questions – “Jabbering? Me?” – are meant to make Aston reconsider his question but ironically he puts monosyllabic murderous affirmative: “Yes,” producing a very humorous retort for the reader/audience but an attack on Davies’ identity.

Repetition is a device that Davies uses frequently against the maxims of quality and quantity. Esslin (1982) says that Pinter’s repetition is a device, not a mannerism; it shows “how a character gradually learns to accept a fact which at first he had difficulty in admitting” (cited in Tezi, p. 2). Aston with face-saving act associates Davies’ jabbering with the bed: “Maybe it was the bed” (p. 23). But Davies does not accept this explanation because it connotatively reveals his status of a tramp; he insists: “I don’t make noises just because I sleep in bed. I slept in plenty of beds” (p. 23). The perlocutionary effect he wants to get is to convince Aston of his respectable identity but mostly his locutions go without or against perlocution. Here his repetitive claim is followed by a pause and then the anticlimactic absurd evasive explanation: “I tell you what, maybe it were them blacks” (p. 23). The pause before
the explanation has already deflated his meaning of words. At the end of the play, he is desperately reversing all his previous statements and trying to convince that he is the right choice for Aston. But all this ends with a long silence with the stage direction: “Aston remains silent, his back to him” (p. 66) supporting his previous agonized observation: “Christ! That bastard he ain’t even listening to me!” (p. 56).

Davies being a homeless and even ‘nameless’ tramp, seeks sympathies and this is one of the major purposes of his flouting. Aston, relatively young, also faces this issue but he has at least security of a home though it cannot compensate for the loss of his ‘place’ as a speaker: “The same men in the factory. Standing there, or in the breaks, I used to … talk about things. And these men, they used to listen, whenever I … had anything to say” (p. 49). He can compensate for his loss by offering sympathy, the key reason for his bringing a tramp to his home, offering him a seat, shoes, tobacco and money (pp. 10-25). Almost consistently complying with the politeness principle on his part is an expression of his psychological need for company and sociability. Contrarily, Davies needs sympathy which is against his self-respect; ironically, he lacks it but suggests otherwise. Therefore, he is simultaneously accepting and rejecting and flouts maxims of quantity and quality with unnecessary and untrue utterances. When Davies is asked whether he needs tobacco, his response is involved, confused with unnecessary and irrelevant prolixity:

Davies: (turning). What? No, no, I never smoke a cigarette. (Pause. He comes forward). I’ll tell you what, though. I’ll have a bit of that tobacco there for my pipe, if you like. (p. 8)

For a positive face, Aston speaks when Davies is quiet but Davies puts a meaningless or phatic question to take his time to think his proper response, proper not in a semantic sense, but in the sense of winning his needed sympathy. He cannot afford to miss Aston’s offer but he cannot demean himself either. Flouting the maxim of relevance, he says something absolutely off the mark in response to Aston’s remark that he saw him attacking Davies: “Go at me? You wouldn’t grumble. The filthy skate, and old man like me, I’ve had dinner with the best” (p. 9). The long irrelevant information serves to generate the implicature that he is a man of stature but his dots, broken expression and gesture of lustfulness show his mental instability: “Anyway, I am obliged to you, letting me . . . letting me have a bit of rest, like . . . for a few minutes. (He looks about). This is your room?” (p. 11). The silences betwixt the utterance suggest his flouting of the maxim of quality to conceal his intention of how long he wants to stay. These gaps are also meant for Aston to fill with a sympathetic expression of input that he may stay there as long as he needs but the implicature of the first silence goes unfilled and so does the second. He is suggesting in the subtext but he cannot say explicitly that he needs his permission to stay. But his desired perlocution is not realized.
Aston’s room is stuffed with junk but Davies appreciates the rubbish as “a good bit of stuff … put it altogether” (p. 11). The illocution of every utterance of Davies gets maximum out of Aston first, and out of Mick later on:

Davies: I was lucky you came into the cafe. I might have been done by that Scotch git. I been left dead for more than once.

Pause. (p. 12)

The pause here is significant: it was Aston’s turn to respond but the pause shows his flouting of the maxims of manner and quantity. By not taking his turn and letting Davies hold the floor, Aston is not favoring Davies. The illocution of the pause is that Aston is not interested in the issue and the perlocution is that Davies flouts the maxim of relevance. Silence is not a mannerism in Pinter; silences and pauses contribute to the meaning and very often more than the words. A pause signifies tension of the unsaid, failure of an expectation, wait for the desired response, – and much more depending on the context – the perlocutions mostly unfulfilled or reversed in the ensuing dialogues. When they have developed some understanding and trust, Aston offers him a job:

Aston: You could be . . . a caretaker here, if you liked.

Davies: What?

Aston: You could look after the place, if you liked . . . (p. 42)

Aston’s indirect speech act further softened with silence and with an explanatory subordinate conditional clause “if you liked.” Davies’ “What?” flouts the maxim of quality to ensure Aston’s illocution but Aston takes Davies’ question as a locution without any different illocutionary motive; he repeats the statement with silence at the end showing his ironical understanding that Davies may or may not like to have this offer because the presence of someone around is Aston’s psycho-social need:

Davies: Well, I . . . I never done caretaking before, you know . . . I mean to say . . . I never . . . what I mean to say is . . . I never been a caretaker before.

Pause.

Aston: How do you feel about being one, then?

...  

Davies: Yes, what sort of . . . you know. . . . (p. 42)
Davies flouts the maxims of quality, quantity and relevance. It may look like flouting of quantity only but later on when Mick offers him this job, he agrees and retrospectively makes his response a blend of flouting of all the four maxims. This utterance with five silences and discontinuities reflects his inability to take responsibility and his fear of the police that may anytime come and put him in the van to carry him away, as he admits later: “... They might be there after my card ... I got only four stamps, on my card, here it is, look ...” (p. 38). Human identity in modern society is defined by papers and he has not got any paper. Secondly, he being a tramp has never got any respectable position and has unnecessary fears. The position offered is also problematic because he will have to stay outside the house or stay in the stairs at the most and he has by now calculated to stay in this house. Offer for a job also pushes him to a subordinate position to the monosyllabic unconfident introvert Aston whom he thinks he can ‘control’ and even oust: this is the illocution when he says to Mick: “You and me, we could get this place going” (p. 50). All these calculated expectations collapses resulting in such multiple flouting suggesting that the severer the psychological crisis, the greater the flouting.

Davies is humbled into observing the politeness principle when he is vulnerable. He flouts the maxims of quantity and quality to simulate his care for Aston. But later on, Davies attempts to provoke Mick against Aston to develop a new alliance with the actual owner of the house:

**Davies:** I was saying, he’s ... he’s a bit of a funny bloke, your brother.

*(Mick stares at him.)*

**Mick:** Funny? Why?

**Davies:** Well ... he’s funny. ... 

**Mick:** What’s funny about him?

... 

**Davies:** Nothing.

**Mick:** I don’t call it funny.

**Davies:** Nor me. (p. 50)

Mick as a perfect hunter has himself first suggested that he is fed up with Aston’s shirking but when, using this ‘information’, Davies maligns Aston to save his own face, Mick puts two direct interrogatives. Through Mick’s ‘staring’, this disturbing questioning has already been communicated to the reader/audience if not to Davies who probably missed eye contact with Mick. Or else he might have withdrawn immediately as he has done seven utterances later. When Mick asks what is funny about that, his response ‘Nothing’ flouts the maxims of quality, relevance and quantity. Mick’s putting this speech act first is followed by a ‘Pause’, a span
pressure on Davies who is concocting a possible explanation of his claim. But as that explanation is not accepted, he withdraws. The locution of Davies’ ridiculous withdrawal is to win Mick’s sympathy and get close to him but the ironic perlocution is that Mick has understood his worthlessness. This locution-perlocution irony is a regular feature of Pinterese:

**Mick:** Yes. You’re a friend of his.

**Davies:** He’s no friend of mine. (p. 61)

Mick knows that he is an intruder and thief (p. 32) but the illocution of his statement is to let Davies open who, weighing Mick’s comparative worth, has shifted his fidelity to him. Davies’ negation observes the maxim of quality though, his illocution is to demean Aston but the perlocutionary effect is that Mick has got his mind.

**Mick:** He don’t let you sleep.

**Davies:** He don’t let me sleep! He wakes me up!

**Mick:** That’s terrible. (pp. 62-63)

Mick violates the maxim of quality misleading Davies who fails to infer the illocution of Mick’s utterance. Davies infringes the maxims of quantity and quality suggesting his positive face. Mick consciously infringes maxim of quality supporting his stance and giving a misperception of sympathy. Davies fails to infer correctly the illocution of his sympathetic utterances and is taken in.

**Conclusion**

The characters in *The Caretaker* have the following purposes of flouting, violating or infringing or opting out of the maxims: getting sympathy, an assertion of power and supremacy, evasion, simulation, dissimulation and making, offering or snatching face or supporting or threatening social image. Sometimes one maxim is flouted to gain one purpose or more, or maybe multiple flouting or violations are manipulated for one or more purposes. For instance, when Davies comments on Aston before Mick, he wants to get multiple locutionary purposes: i- undermining Aston’s character; ii- winning Mick’s sympathy; iii- asserting his own superiority; iv- developing a link with Mick; v- preparing for Aston’s removal; v- gradually expanding his social space. But all these different motives collectively contribute to Davies’ struggle for identity. Deviant expression in *The Caretaker* goes ‘beyond language’ to grasp “an undisclosed totality of perception; hence it had to go beyond language” (Tiwari, 2012, p.4). The totality of ‘unsaid’ communication and the suggestiveness of flouting is difficult to grasp and here lies the depth of literariness of Pinterese.
Note: The dialogues have not been taken in their textual continuum. Some of the utterances have been occasionally missed to take only the chunk relevant to the current analytical purpose. Dots in the position of a character in the dialogue refers to a missed utterance.
References

Aydin, T. (2006). Renunciation of Language in Harold Pinter’s The Homecoming, The Caretaker and The Dumb Waiter: A Lacanian Analysis. Unpublished doctoral dissertation, School of Social Sciences Middle East Technical University, Ankara, Turkey.

Esslin, M. (1969). The Theatre of the Absurd. New York: Anchor Books.

Esslin, M. (1982). Pinter the Playwright. London: Methuen.

George, D. M. (2014). Language of Silence in the Plays of Harold Pinter. International Journal of Applied Linguistics & English Literature, Add volume and Issue No p. 79-87.

Grice, P. (1991). Studies in the way of words. Harvard University Press.

Hammond, G. (1972). Something for the Nothing of Beckett and Pinter. CEA Critic, Add volume and Issue Nop. 1-39.

Kaul, A. & Pandit, A. (May 2006). Checkmate! Winning the game of communication: A study of conversational principles. India: Indian Institute of Management Ahmedabad.

Kyllesdal, M. A. (2012). The Power of Repetition: An Analysis of Repetition Patterns in The Hothouse and The Caretaker by Harold Pinter. Unpublished doctoral dissertation, The University of Oslo, Oslo.

Mireia, A. (2013/2014). Fracturing the Critical Conversation: A Response to Maurice Charney. Connotations, p. 173-356.

Mostofi, K. (2009, August). An Analysis of Characters’ Inner Threat in the Caretaker and Grice’s Concept of Implication. Retrieved December Monday, 2014, from Ezine@rticles: http://EzineArticles.com/?expert=Khorshid_Mostofi

Ouiza, B. (2012). Edward Albee’s The Zoo Story and Harold Pinter’s The Caretaker: Theatre of the Absurd or Theatre of Language? Unpublished doctoral dissertation, MouloudMammeri University of Tizi-Ouzou, Algeria.

Panwar, D. (2010). Multidimensional dialogues in Harold Pinter’s Old Times. The Criterion: An International Journal in English, 9.

Pinter. (1991). Plays: Three. London: Faber and Faber Ltd.

Raby, P. (2001). Pinter Politics and Postmodernism. Cambridge, U.P.
Tezi, Y. L. (2007). The Stylistic Analysis of Harold Pinter’s Plays: The Birthday Party, The Homecoming, The Caretaker, Ashes to ashes, Betrayal. Unpublished doctoral dissertation, Selcukuniversitesi, Bilim Dali.

Tiwari, C. S. (2012). Harold Pinter and The Theatre of the Absurd. Lapis Lazuli – AnInternational Literary Journal, Add volume and Issue No 1-17.

Vargas, J. C. (2011). Tacit Significance, Explicit Irrelevance:. Revista de Lenguas Modernas, p.31-48.

Wasserman, A. (1975). Punch and Pinter Pre-literary Techniques in the Plays of Harold Pinter. Unpublished master’s dissertation, McMaster University, Ontario.