

فصلنامه تحقیقات جدید در علوم انسانی

Human Sciences Research Journal

دوره جدید، شماره ۲۴، بهار ۱۳۹۹، صص ۱۶۹-۱۸۳

New Period, No 24, 2020, P 169-183

ISSN (2476-7018)

شماره شاپا (۲۴۷۶-۷۰۱۸)

Gender Differences in Workplace Requests Among Customers and Service Providers

Yosef Ghorbani

MA of Teaching English as a Foreign Language

Department of English Language and Literature,

Allameh Tabataba'i University, Tehran, Iran

yosef_ghorbani@atu.ac.ir

Abstract

Studies of major speech acts in various contexts and situations can have interesting and informative implications for language teachers, researchers and sociologist. The present study aimed at comparing men and women regarding their strategies, directness and moves in their request speech act in Persian. To accomplish the previously stated goal, data were collected during busy working hours in an internet café in the center of the city, and the request utterances, subsequently, were transcribed. Blum-Kulka and Olshtain's Cross-Cultural Study of Speech Act Realization Pattern (CCSARP) was chosen to analyze the request from different perspectives, namely strategies, directness and moves. Regarding strategies, the result revealed that the majority of both men and women opted for query preparatory. Furthermore, mood derivable was also used as the second most frequent strategy. Regarding moves, the most frequent move, with a relative frequency of 0.90, is the head act only, without which the request is meaningless. Requests with only the head act was the most frequently used request by both groups. In general, considering directness, which may depend on many factors, the most frequent level was direct between men and women. Furthermore the analyzed data revealed the fact that the most frequent directness level among men was direct. However, women used conventionally indirect level in the majority of requests.

1. Introduction

Ellis (1994) defined requests as “an attempt on the part of the speaker to get the hearer to perform or to stop performing some kind of action” (p. 167). Among speech acts, the speech act of requesting is one of the most frequently used and practical ones. A request, an illocutionary act, happens when the speaker usually asks the hearer to perform an action which is of value to the speaker. Because requests have always something to do with the hearer’s face, they are considered intrinsically face threatening (Brown & Levinson 1987). As the result, the speaker usually deploys different strategies and modifications to lessen the imposition when performing the speech act of requesting. In other words the speaker uses different strategies to manifest different levels of directness appropriate in a particular situation. There are various factors that may have an effect on the request strategies one of which is gender. Gender has been a matter of controversy and scholars have had different opinions on this. Although some claim women are more polite than men, others believe the issue is much more complicated than that, and we should take into account other variables too.

Culture, manifestation of human intellectual achievement, can have profound effects on every aspect of a society in general and on language in particular. There are hidden aspects of culture which are buried and concealed in the deepest levels of a community. These aspects are often of considerable difficulty for a person new in a particular culture and they often cause misunderstanding or confusion in communication. Wannaruk (2008) mentioned, “Communication breakdowns can occur during cross-cultural communication due to different perceptions and interpretations of appropriateness and politeness” (p. 318). In addition, gender-related expectations in different culture and its effects on language has been a matter of debate in language studies. All in all, it goes without saying that different cultures have different expectation from men and women.

There have been many studies conducted to investigate differences between men and women styles in speech acts. For instance, in one study women were regarded as more polite at making request and also more competent at using the speech act of requesting (Holms 1995). Zimmerman and West (1975) also claim that women are more likely than men to use strategies which lessen or avoid the threatening features of the request. As a result, they are considered more polite than men.

While this might be true, Shams and Afghari (2011) conducted a research on the effect of gender and culture on the comprehensibility of indirect requests, and they concluded that gender have no effect on requests. Moreover, Lorenzo and Bou (2003) have a similar perspective regarding the differences between men and women in using the speech act of request. They believe gender-related differences cannot be a reliable factor in determining the differences between genders, and it is too simplistic if we consider only gender as the determining factor of politeness. In line with this

study Mills (2002) also claimed that the stereotype that women are more polite than men should be revised and we cannot only claim that gender is the single most important cause of politeness.

Generally research in speech act has been divided into cross-cultural studies, single language, and interlanguage pragmatic approach (ILP).

1.1 Cross-cultural studies

Languages have different rules and norms to manifest a particular kind of meaning. Different languages use various structures and vocabulary for a single speech act. For example, one language may use a word to show gratitude while the other language may use a phrase or sentence in the same situation. Furthermore, the vocabulary may differ. These are just the outer layer of language. Culture also can have profound effect on language and many other factors in communication. That is why when two languages are compared, the study is called cross-cultural. Cross-cultural studies investigate different realization of a single speech act. It usually focuses on similarities and differences in order to find universal principles in speech act realizations (e.g Hilbig, 2009). Researchers in this area placed their attention on indirectness and politeness (e.g Tawalbeh & Al-Oqaily, 2012) and request modification (Hans, 2012).

1.2 Interlanguage pragmatic approach (ILP)

These studies focus on pragmatic competence of the learners. The majority of the research in this area is related to English as a foreign language and English as a second language. Here there is a dichotomy of instruction and use. Some research has been on instruction for example Xiaolee (2011), Farahian, Rezaee, and Gholami (2012) and Dastjerdi and Rezvani (2010). The other part of the research has focused on speech acts usage for example Umar (2004), Jalilifar (2009) and Memarian (2012)

2. Purpose of the study

Regarding existing works, this study aims at investigating the relationship between gender and request strategies to see whether there is a relationship between gender and politeness or not. It also aims at investigating the level directness and different moves in requests. In order to address the aforementioned issues, the following research questions arise:

1. How do men and women differ in using request strategies?
2. How are women's requests different from men's regarding three moves?
3. What is the relative degree of directness preferred in making requests in Persian?

3. Method

3.1. Corpus

This study used a transcribed collection of different requests in everyday speech of Iranian. A great deal of variety in subjects was noticed because the data collection was in the center of the city where one may find representative sample of a society. One can be sure that the data is representative of the population.

3.2. Participants

Participants of this study comprise three assistants and customers in an internet café in the center of city. All assistant are experienced and competent at computer skills and internet related issues.

3.2.1. Assistants

Assistant participants are three male assistants consisting of three experienced and a novice assistant, between 20 and 30 years old. Everyone is a professional at internet-related issues and competent in his job. Each day two assistants are in charge, one in the morning and the other in the afternoon.

3.2.2. Customer Participants

Participants are the customers of an internet café. On average every day 150 to 200 people go to the Internet café. Because the internet café is at the city center, which is the most crowded part of the city, one may see people from all walks of life there; the majority of them is between 17 to 35 years old both men and women. It has been noticed that the majority of customer participants were from educated part of the society, which may have been as the result of required skills to use a computer and the Internet.

3.3. Instrumentation

The purpose of current study is to find out how female requests are different from male requests. In a lot of studies DCT has been used to elicit information and data. As Nurani (2009) explained, "What people claim they would say in the hypothetical situation is not necessarily what they actually say in real situations" (p. 667). So, in this study we tried to use real situations in collecting the requests. In accordance with the goal of this study, the instrument which will be used is sound recording. There will be dialogic interaction among the assistant and customers. It is expected for the customers to have a request to have an access to the Internet and another request to ask the cost. Customers sometimes ask the assistant to help them with internet-related issues and problems as well. So, at least every customer will have two or more requests. The process of requesting is not structured and people have their requests based on their needs.

3.4. Data Collection

The whole conversations will be recorded using a recorder. After recording process, the whole audio subsequently will be transcribed.

3.5. Data Analysis and Procedure

Requests will be analyzed following Blum-Kulka et al's (1989) methodology. According to their model every request has three parts, including alerter, head acts and adjunct or supportive moves, and the head act. The core of the request is the head. For example:

Alerter	Head Act	Adjunct or Supportive Move
Excuse me,	Can you tell me where the nearest bank is	Please?

Regarding the scale of directness, requesting strategies universally are expected to be manifested in three levels.

the first and most direct one is realized by imperatives.

the conventionally indirect level; (an example would be 'could you do it' or 'would you do it' meant as requests);

nonconventional indirect level, i.e. the open-ended group of indirect strategies(hints) that realize the request by either partial reference to object or element needed for the implementation of the act ('Why is the window open'), or by reliance on contextual clues ('It's cold in here').

According to this model there are also nine strategy types as following:

1. Mood derivable
2. Explicit performatives
3. Hedged performatives
4. Obligation statements
5. Want statements:
6. Suggestory formulae
7. Query preparatory
8. Strong hint
9. Mild hint

The data will be analyzed through this model.

Date Analysis

This part deals with various strategies used by native Persian speakers during working hours of the internet café mentioned earlier. The uttered requests were transcribed and classified according to Blum-Kulka and Olshtain's (1989) model of directness levels as following.

Table 1. Comparing Request Strategies Used Native Persian Speakers

Request strategies English Persian	
Mood derivable.	167
Obligation statements.	22
Want statements.	38
Query preparatory	198
Locution derivable.	00
Explicit performative.	00

In table 1 the frequency of different types of request strategies of native Persian speakers are shown. Query preparatory is the most frequently used strategy which may refer to the politeness and face-saving aspect of the subjects or the society from which the sample were collected. In the second place, without a big difference, mood derivable is shown in the table 1. In other words, individuals in the study used this strategy slightly less frequently. Persian speakers demonstrated a marked preference for these two strategies and used it as their favored request strategies. As can be understood from Table 1, a significant difference can be observed in the frequencies with which Persian speakers used want statements in comparison with the two previously mentioned strategies. In 38 cases subjects opted for want statements. The Persian speakers used query preparatory almost 5 times as many as the want statements, and in comparison with mood derivable strategy, Persian speakers used mood derivable 4 times as many as want statements. However, in comparison with obligation statements the numbers were closer. As can be inferred from table 1, the frequency of obligation statements, with a frequency of 22, placed as the least frequent of the all. The rest of the strategies were absent. All in all, Persian speakers seems to opt for query preparatory strategy which is a conventionally indirect strategy. Although the first and most frequently strategy is an indirect one, the second most frequently strategy is the mood derivable, which is the most direct strategy among others.

Research question 1: How do men and women differ in using request strategies?

Table 2: Frequency of Men and Women Request Strategies

	Mood derivable In/direct	Obligation statements Direct	Want statements Direct	Query preparatory Direct conventionally indirect
Total	167	22	38	198
Man	152	19	26	165
Woman	15	3	12	33

Table 3: Relative Frequency of Men and Women Request Strategies

	Mood derivable In/direct	Obligation statements Direct	Want statements Direct	Query preparatory Direct conventionally indirect
Relative Man	0.41	0.05	0.07	0.45
Frequency Woman	0.23	0.04	0.19	0.52

There seems to be some differences between men and women in request strategies. As can be inferred from table 2 and 3, the majority of both men and women opted for query preparatory, women used it more than men, 0.52 and 0.45 percent of the requests, respectively. Mood derivable is also used as the second most frequent strategy, but there is a considerable difference between the relative frequencies. Although women used only this strategy in 0.23 of the situations, men used this strategy in 0.41 of the situations, almost twice as many as the women's usage. In both groups, almost 0.05 of the strategies are according to obligation statements. Men only used this strategy slightly more than women. However, in the want statements there can be seen a big difference. Men used this strategy in 0.07 of the situations, while women used this strategy three times as many as men did. In other words, women used this strategy in 0.19 of the situations. All in all, 0.52 of the whole women request was allocated to query preparatory which is bigger than all other women's strategies combined. This shows that women in this study, based on levels of directness, opted for conventionally indirect strategies while men used direct and indirect strategies almost equally. Based on the data, women are more cautious and careful in their request than men are.

Research Question 2: How are women's requests different from men's regarding three moves?

In the framework of Blum-Kulka et al (1989) the requests have been regarded as having three moves or parts. The first one is the alerter which as the name denotes alerts or makes the other party alert. For example, excuse me is one of the most frequently used alerters. The next move is the main

and most important part of the request which is called the head act. The third and the last move is the adjunct or supportive move. In this optimal part the speaker can modify the illocutionary force. In this part of the article these three different moves are compared and contrasted.

Table 4 Three Moves in Requests According to Blum-Kulka et al (1989)

Total RHA	RAHA	RHAA	RAHAA
Frequency	425	383	38 2 1
Relative Frequency	1.0	0.90	0.08 0.007 0.002

Requests with Head Act only= RHA (b)

Requests with Alerter and Head Act = RAHA (a+b)

Requests with Head Act and Adjunct = RHAA (b+c)

Requests with Alerter, Head Act, and Adjunct = RAHAA (a+b+c)

According to the data the most frequent move, with a relative frequency of 0.90, is the head act only, without which the request is meaningless. It is also apparent that speakers almost never used the adjunct move. It may be because of the nature of the requests in the study. They never had a request for something very valuable. That may be why they left the adjunct move out. Subjects only used this last move once in four hundred twenty-five requests. So, the most frequent move in requests is the head act. The second most frequently used move is the alerter. In 0.08 per cent of the requests subjects opted for it. It is also clear that most of the time the shopkeepers are alert in order not to lose a customer. Although only 0.08 per cent of the requests was allocated to this move, it can be of considerable important in different context where the person in charge is an authority or alike. Individuals also used head act and adjunct in only three cases which is 0.007 per cent of the all requests. Finally the least frequent kind of request, which is a full form of a request with three moves, is presented in only a single case among four hundred twenty-five requests.

All in all, the majority of the requests in the study were classified as having only head act. This shows that the object or purpose of the request was something of not considerable value or importance. Yet, there is the main part of the research question; how women's requests are different from men's regarding three moves. In the next part, this issue will be discussed.

Table 4 Three Moves in Requests of Men and Women

Total RHA	RAHA	RHAA	RAHAA
Men Frequency	360	331	26 2 1
Women Frequency	64	52	12 0 0
Men Relative Frequency	1.0	0.91	0.07 0.005 0.002
Women Relative Frequency	1.0	0.81	0.18 0.0 0.0

The most frequent request move in both men and women's requests is the head act. Requests with only the head act is the most frequently used request by both groups, but with a difference in relative frequency. Requests with only the head act was present in 0.91 per cent of the men's requests while this dropped to 0.81 per cent in women's request. This may refer to the tendency of the women to be a little more polite. In the second position of the most frequently used requests there was a difference between two groups. Men only in 0.07 per cent of the situations used the requests with alerter and head act. However, women used the same request move in 0.18 of the situations. The interesting point about the women group was that they never used the other two strategies, but men used requests with head act and adjunct in 0.005 per cent of the situations and requests with alerter, head act, and adjunct in 0.002 per cent of the situations.

Research Question 3: What is the relative degree of directness preferred in making requests in Persian?

Table 5 Levels of Directness in Requests

	Direct	Conventionally indirect	Unconventionally indirect	Total
Total	228	197	0	425
R _f	0.53	0.46	0	1.0
f Men	200	164	0	364
f Women	28	33	0	61
R _f Men	0.54	0.45	0.0	1.0
R _f Women	0.45	0.54	0.0	1.0

Relative Frequency= R_f

Frequency= f

The level of directness in making requests can rely on many factors, but with the above mentioned situation these results were found. The most frequent level was direct. Individuals tended to express whatever they need in a direct way in 0.53 per cent of the situations. The second most frequent level is the conventionally indirect way of expressing a request. With a difference of 0.07 per cent, this level was used in 0.46 per cent of the situations. One might say that people were quiet polite in requesting. What was interesting was that no one used unconventional way of requesting. This level of directness was never spotted in the study. It might be to the fact that, in working places people want to get their jobs done quickly, and they do not venture their chances in getting their message understood.

The very interesting result from the study was the relative frequency of directness levels between men and women. In 0.54 per cent of the situations men used a direct level to express their requests. They also used the conventional indirect level in 0.46 per cent of the situations. In other words, men tend to use direct level more than indirect level. The interesting point

was that women actually used these two levels exactly in a totally different ways. In 0.54 per cent of the situations women used an unconventionally indirect way (while men used the exact proportion for direct level). They used the direct way in 0.46 per cent of the situations (while men used the exact proportion for indirect level). This shows that women tend to use more indirect requests than men do. This is in accordance with the idea that women are more polite than men.

Discussions of the Study

Having classified all the examples of strategies in workplace requests among customers and service providers, according to Blum-Kulka and Olshtain's (1984) model, it was noticed that the subjects mostly used mood derivable, which is the most direct level, in the request classification. As cited in Yazdanfar and Bonyadi (2016) this result accords with the findings of Eslamirasekh (1993) that "Persian speakers use significantly more direct strategies" (p. 91). The same result is in contrast with Salmani (2008) and Shams and Afghari (2011). They believed that Persian participants opted for indirect requests more than direct ones.

Differences among the results can be due to the fact that in most of previous studies they used DCT as a method of collecting data. In some, they used DCT modified form. For example, Eslamirasekh (1993) used open questionnaire. It has also been mentioned that "What people claim they would say in the hypothetical situation is not necessarily what they actually say in real situations" (Nurani, 2009, p. 667). In this study authentic data gathered from the requests uttered in working place was used to obviate that shortcoming.

The reason why individuals used mood derivable most often can be because of the situation. Customers did not feel the necessity of decreasing the impact of their requests as much as when they communicate with people in power or authorities. Furthermore, the degree of imposition was low, and consequently, the need for mitigating requests was obviated.

On the other hand, in nowadays competitive world of business every service provider wants to make their customers as happy and comfortable as possible, and customers are aware of the fact that if a service provider cannot deliver required service to make the customers satisfied, there are a lot of other service providers around the corner. So, the customers usually do not feel the obligation to use mitigation devices. As an example referring to an exclusive car company's repair shop can help understand the concept better. If there is an exclusive repair shop in the city, the customers will probably use more mitigation devices which can be a topic for another study. This difference might be due to the scarcity of the offered service. In general, individuals tend to use mitigation devices when they are asking for something valuable or one might say the level of imposition is high. The

presence of lexical and syntactical mitigation devices depends on the level of imposition of the request (Economidou-Koetsidis & Woodfield 2012).

Implications of the Study

The findings of the current study can help develop material for the Persian learners. It also provides the necessary areas to be highlighted in order for the learners to acquire them better. Furthermore, it can help learners recognize the strategies used by Persian speakers in authentic conditions and enhance learners' pragmatic knowledge. Pragmatic competence as a part of language competence is not learned automatically. It needs training from the beginning levels of learning (Politzer, 1980).

It can also be of help to scholars who work on culture-related issues. For example, in culture and business area some information about the appropriate language for business contexts can be revealed. To be more specific in results, one may need to gather data from different business contexts and evaluate differences and patterns, which can be a new study in itself. In this study because of inaccessibility of data and resources the only source was from an internet café in the center of the city. Examining other context can yield different results. All in all, this study can be helpful for those who want to establish a new business in Iran if the results put in action carefully.

Appendix A

A Combination of Levels of Directness and Strategy Source: Taken from Belza (2008, p. 84). Types.

Directness level	Strategy types	Examples
Direct mood of	1. <i>Mood derivable</i> : where the grammatical the verb determines its illocutionary force as a request, e.g., the imperative.	<i>Close the door.</i> <i>I'm asking you to close the door</i>
	2. <i>Explicit performatives</i> : where the illocutionary intent of the utterance is explicitly named.	<i>I would like to ask you to close the door. I must ask you to close the door.</i>
	3. <i>Hedged performatives</i> : where the naming of the illocutionary force is modified by hedging expressions.	<i>You should/will have to close the door.</i>
	4. <i>Obligation statements</i> : where the illocutionary point is directly derivable from the semantic meaning of the locution.	<i>I want you to close the door.</i>
	5. <i>Want statements</i> : where the utterance expresses S's desire, intention that H carries out the act.	Why don't you close the door? Could you close the door, please? Would you mind closing the door please?
Conventionally indirect contains a	6. <i>Suggestory formulae</i> : where the utterance suggestion to do.	<i>The door is open</i>
	7. <i>Query preparatory</i> : where the utterance contains reference to a preparatory condition (e.g., ability, willingness or possibility to perform the act) as conventionalized in any specific language.	<i>There is a draught in here.</i>
Non-conventionally indirect partial	8. <i>Strong hint</i> : where the utterance contains reference to object or elements needed to implement the act.	
	9. <i>Mild hint</i> : where no reference is made to the request proper (or any of its elements) but interpretation is possible from the context.	

Appendix B

Some Examples of Request Strategies.

Strategy types	Persian	English
Mood derivable (Wait	Sabr kon ta xodam behet begam che kar koni. for me to tell you what to do).	Stop stalling and go. I'd really appreciate it if you said something.
Explicit performative to	Khahesh mikonam ye kam arum sho. (I beg you calm down a little).	I'm gonna want you to be home by eleven.
Hedged performative ke zadun	Majburam azat bekham ke hameye harfnavi pishe xodemun bemune. (I have to ask you to keep it as a secret between us).	
Obligation statements Want statement want you in	Bayad beri. (You must go) Mixam dige tu zendegim nabashi. (I don't my life anymore)	You should slow things down. We need you to do something for us.
Suggestory formula (Let's try to	Bia sa'ay konim be in mas'ale adat konim. get used to it)	Why wouldn't you just drop me off and go home.
Reference preparatory condition	to Mitunm karte shoma ro dashte basham? (Can I have your card?)	Can I store some odds and ends in your garage?
Strong hints yard.	Un nabavad zende bemune. (He shouldn't be alive) I kicked my ball in your back	

References

- ___ Blum-Kulka, S ; House, J., & Kasper, G. (1989) Cross-cultural pragmatics: requests and apologies. Norwood, NJ: Ablex.
- ___ Brown, P. & Levinson, S. C. (1987). Politeness: Some universals in language use. Cambridge:Cambridge University Press.
- ___ Economidou-Kogetsidis, M., & Woodfield, H. (2012). Interlanguage request modification. Amsterdam: John Benjamins Pub. Co.
- ___ Ellis, R. (1994). The study of second language acquisition, Oxford, UK: Oxford University Press.
- ___ Farahian, M., Rezaee, M., & Gholami, A. (2012). Does direct instruction develop pragmatic competence? Teaching refusals to EFL learners of English. Journal of Language Teaching and Research, 3, 814-821.
- ___ Hans, X. (2012). A contrastive study of Chinese and British English request modifications. Theory and Practice in Language studies, 2, 1905-1910.
- ___ Hilbig, I. (2009). Request strategies and politeness in Lithuanian and British English. Retrieved from www.ifa.amu.edu.pl/ylmp
- ___ Holmes, Janet (1995) Women, Men and Politeness. London: Longman. doi:10.4324/9781315845722
- ___ Jalilifar, A. (2009). Request strategies: Cross-sectional study of Iranian EFL learners and Australian native speakers. English Language Teaching, 2(1), 46-61.
- ___ Lorenzo-Dus, N., & Bou-Franch, P. (2003). Gender and politeness: Spanish and British undergraduates' perceptions of appropriate requests. Retrieved November 29, 2009, from [http://www.uv.es/bouf/PDF/ Requests.pdf](http://www.uv.es/bouf/PDF/Requests.pdf).
- ___ Memarian, P. (2012). The use of request strategies in English by Iranian graduate students: A case study (Unpublished master's thesis). Eastern Mediterranean University, Gazimağusa, North Cyprus.
- ___ Mills, S. (2003). Gender and politeness. Cambridge: Cambridge University Press.
- ___ Nurani, L. M. (2009). Methodological issues in pragmatic research: Is discourse completion test a reliable data collection instrument? Jurnal Socioteknologi Edisi, 17, 667-678.
- ___ Salmani, M. A. (2008). Persian requests: Redress of face through indirectness. Iranian Journal of Language Studies, 2, 257-280.
- ___ Shams, R., & Afghari, A. (2011). Effects of Culture and Gender in Comprehension of Speech Acts of Indirect Request. English Language Teaching, 4(4). doi:10.5539/elt.v4n4p279
- ___ Shams, R., & Afghari, A. (2011). Effects of culture and gender in comprehension of speech acts of indirect requests. English Language Teaching, 4, 279-287.

- ___ Tawalbeh, A., & Al-Oqaily, E. (2012). In-directness and politeness in American English and Saudi Arabic requests: A cross-cultural comparison. *Asian Social Science*, 8(10), 85-98.
- ___ Umar, A. M. (2004). Request strategies as used by advanced Arab learners of English as a foreign language. *Zul-Qu'da* 1424-H, 16(1), 42-87.
- ___ Wannaruk, A. (2008). Pragmatic Transfer in Thai EFL Refusals. *RELC Journal*, 39(3), 318-337. doi:10.1177/0033688208096844
- ___ Xiao-le, G. (2011). The effect of explicit and implicit instructions of request strategies. *International Communication Studies*, 1, 104-123.
- ___ Yazdanfar, S., & Bonyadi, A. (2016). Request Strategies in Everyday Interactions of Persian and English Speakers. *SAGE*, 6(4), 1-11. doi:DOI: 10.1177/2158244016679473
- ___ Zimmerman, Don & West, Candace (1975) "Sex roles, interruptions and silences in conversation" Retrieved from <https://web.stanford.edu/~eckert/PDF/zimmermanwest1975.pdf>

