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ROLE DIFFERENTIATION IN THAI SOCIAL STRUCTURE IN TERMS OF A SEMANTIC ANALYSIS OF THAI PRONOUNS AND ROLES

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Communication, Cooperation, and Negotiation in Culturally Heterogeneous Groups
Project Supported by the Advanced Research Projects Agency, ARPA Order No. 454
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FRED E. FIEDLER AND HARRY C. TRIANDIS
Principal Investigators

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ABSTRACT

Fourteen Thai first-person pronouns and sixty Thai social roles were scored on a common set of eleven features. Following a model of semantic feature analysis developed by Osgood, usage of the various pronouns within the various roles was predicted: appropriate (+), permissible (0), or incongrous (-). These predictions were obtained by multiplying feature codings on the pronouns with corresponding codings on the roles; the algebraic sum of these products yielded a +, 0, or - outcome for each pronoun-role combination.

Validity of the model was evaluated in terms of: the percentage of predictions which were accurate; correspondence of the semantic features with factors obtained through factor analysis; and the information revealed concerning the structure of Thai role differentiation.

Fifty-three Thai high school students were asked to judge the appropriateness of the 14 x 60 pronoun-role combinations. This data constituted the criteria for evaluating success of the semantic features and also provided material for the factor analysis.

Six factors were found to describe 94% of the variance. They appeared to incorporate nine of the eleven semantic features. These, in turn, accurately predicted 85% of the Ss' specific judgments. The semantic features further revealed a hierarchic, tree-like structure within the semantic patterns of Thai pronouns and social roles.

Role Differentiation in Thai Social Structure in Terms of a Semantic Analysis of Thai Pronouns and Roles[1]

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It is commonly thought that the family represents a microcosm of the larger social structure (see Parsons and Bales, 1955). The family provides a learning program for the child in which family roles are one of the rudimentary lessons. An important aspect of the socialization process requires that the child learn criteria for differentiating among various roles.

Family role differentiation appears to be universally invariant. It occurs in the following sequence: first, the child learns to distinguish <u>self</u> from <u>others</u>; secondly, to discriminate people of the same or opposite <u>sex</u>; and finally, to distinguish between people of his own or of a different <u>generation</u>. Thus, Foa, Triandis, and Katz (1966) have described roles generated by these three facets, namely Actor, Sex, and Generation (Status), and have hypothesized that these facets constitute a

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[1]The study was supported in part by the contract to study "Communication, Cooperation, and Negotiation in Culturally Heterogeneous Groups" between the University of Illinois and the Advanced Research Projects Agency, ARPA Order No. 454, under the Office of Naval Research, Contract NR 177-472, Nonr 1834(36). (Fred E. Fiedler and Harry C. Triandis, Principal Investigators.) The authors are indebted to Dr. Charles E. Osgood for his valuable comments and assistance.

which mirror the distinctions among roles. The significance of the study lies in the premise that the understanding of role differentiation at the semantic level will shed substantial light on the problems of cross-cultural interpersonal conflict. Viewed in this perspective, cross-cultural interpersonal conflicts are due to differences in semantic patterns of key roles.[2] Since behavioral systems associated with social roles are derived from such role criteria (role features), the encounters of people from cultures with different semantic patterns may lead to interpersonal conflicts.

Semantic Feature Analysis

Osgood introduced the concept of a semantic feature "in a manner analogous to Jakobson's conception of a phoneme, the meaning of a word-form can be conceived as a simultaneous bundle of distinctive semantic features" (1968). Following this parallel, he proposed a model of semantic patterns (structures). Each word's meaning is thought to be represented by a semantic feature pattern, the pattern conveyed by a series of signed codings on the set of features.

Semantic patterns of words interact in a syntatic structure. That is, in encoding, the meaning of any high-order constituent (phrase or sentence) is created from the serial coding of the word elements involved. In decoding, the process is reversed; codings for higher-order constituents are some resolvable function of the component word codings. Semantic

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[2]We are implicitly assuming that there exists a universal set of semantic features for any particular domain, but that the pattern, or the representation of a given word in terms of these features, may be cultually unique. Thus, it is possible that, in contrast to our own culture, father is given a zero coding on the potentcy feature, in deference to the maternal uncle who receives a plus. While the feature is commonly relevant to both cultures, words may align themselves differently with respect to it.

interaction is assumed to operate according to an ordered set of the following rules:

1. If the codings of the word elements in any combination (e.g., attack meekly) display opposed signs on any single feature, then the combination will be semantically anomalous. This condition is called incongruity.

2. If rule 1 does not apply (there are no opposed signs), and the codings of the word elements display the same signs on any feature, then the combination will be semantically opposite or fitting (e.g., contradict sharply). This condition is called congruity and creates an intensification of meaning.

3. If neither of the above rules apply (there are neither opposed nor common signs), then the combination will be semantically permissible. This condition is called permissible and involves a modification of meaning (e.g., plead sincerely).

The immediate problem which this model presents is that of unraveling the "bundles of semantic features" in a given domain. In a paper based on an earlier work, Speculation on the Structure of Interpersonal Intentions (Osgood, 1966), the semantic analysis of interpersonal verbs was developed intuitively. In this study, a set of a priori features was derived through a rational analysis of the language of interpersonal behavior. Initially, six features were proposed: Associative/Dissociative; Initiating/ Reacting; Directive/Nondirective; Tension-increasing/Tension-decreasing; Ego-oriented/Alter-oriented; and Supraordinate/Subordinate.

Two hundred and ten interpersonal verbs were then obtain from index categories of Roget's Thesaurus and coded on each of the six features.

Face validity of these a priori semantic patterns was presented in terms of the word clusters which were formed and differentiated on the basis of the feature scoring. Through this analysis, two features, Directive/Nondirective and Tension-increasing/Tension-decreasing, were discarded, and six additional features were generated: Moral/Inmoral; Potent/Impotent; Active/Passive; Terminal/Interminal; Future-oriented/Past-oriented; and Deliberate/Impulsive.

Another, possible solution to the problem of identifying the relevant features derives from the assumption that the bundles of semantic features in word elements can be inferred from the habits of word usage. In another study by Osgood (1968), the intersections of two, syntatically close form classes was employed. For example, verbs and adverbs were used in phrases, such as to beg hopefully, to corrupt sincerely; or adjectives and emotion nouns were used, such as sudden surprise, affectionate hatred. In fact, all possible combinations of such words were generated and submitted for judgments of semantic anomaly, appositeness, or permissiveness to samples of native English speakers. Two different models were applied: the first, a discrete model which assumes that each feature can have only three values (positive, negative, and zero) and that codings interact according to the rules stated on page three. The second model assumes that each feature is scaled in a continuous fashion and that codings interact linearly. The discrete model was analyzed with a special computer program written by Ken Forster, while the continuous model employed standard factor analysis programs.

Table 1 illustrates the (discrete) semantic patterns for two verbs and three adverbs. In this example, the word combinations corrupt hopefully

and plead with desperately should give the feeling of congruity and intensification of meaning since their component words each share plus signs on certain features and there are no opposed signs. On the other hand, the combination to corrupt sincerely should give the feeling of semantic anomaly since it has opposed signs on the first feature, Moral/Inmoral. The combination to plead with sincerely should give the feeling of modifying the basic verb meaning on the first dimension.

Insert Table 1 about here

The present study attempts to test the feasibility of such semantic feature analysis, when the features are determined both empirically and upon an a priori basis. Specifically, we are concerned with demonstrating that semantic analysis in terms of features is a fruitful approach to the description of behavioral patterns within a culture. And, to the extent that these semantic features are demonstrated in the future to be common across cultures, valid cross cultural comparisons will be made available.

Application to Thai Social Structure

The present investigation applies semantic feature analysis to a study of Thai social structure. The following steps were undertaken:

1. A set of social roles judged to be common in various cultures, particularly in Thailand and the United States, was selected. These social roles served as the main vehicles for the semantic analysis.

2. Since Thai social structure is highly stratified we expected to find a parallel stratification among personal pronouns. In Thai, there are numerous pronouns, approximately 20 first person pronouns equivalent

Table 1

(From Osgood, 1968)

	A + moral -immoral	B potent impotent	C active passive	D assoc disoc	E init react	F ego alter	G supra sub	H future past	I term inte	J delib impul
V <u>corrupt</u>	-	0	-	0	+	0	+	+	-	+
V <u>plead with</u>	0	0	+	0	+	+	-	+	0	0
AV hope-fully	0	0	0	0	0	0	0	+	-	0
AV Sin-cerely	+	0	0	0	0	0	0	0	0	0
AV des-perately	0	0	+	0	0	+	-	+	0	-

to "I" and about the same number of second person pronouns equivalent to the pronoun "You." With regard to the discovery of semantic features, Thai pronouns are likely to be most informative when used in combinations with social roles. Roles and pronouns are appropriate combinations according to the syntatic rules of the Thai language. For example, "I (i.e., Chan), the King of Thailand, proclaim that..." is in good form. However, "I (i.e., Nooh) would never be used in this context, since Nooh is literally translated as 'mouse'!

3. A set of a priori features was developed through a rational analysis of Thai pronouns and social roles.

4. The Thai pronouns and social roles were independently coded on each a priori feature, generating various semantic patterns (strip-codes of pluses, zeroes, and minuses). These semantic patterns may be thought of as the hypothesized patterns of role differentiation in Thai society.

5. Semantic patterns of Thai pronouns and social roles were each compared, feature by feature, in order to predict semantic interactions: a minus sign was given if the words had opposed signs on any shared feature, and a plus sign was assigned if that pronoun-role pair had the same signs on any shared feature, etc. In practice, this comparing procedure is very time consuming. However, computers are especially adapted to such scanning procedures and a program was available for this purpose. Forster's program provides a predicted matrix consisting of entries in which a +1 signifies a predicted, appropriate combination; a -1 signifies a predicted, anomalous combination; and a 0 signifies a predicted, permissible combination.

Table 2 reproduces these predictions; and, in a sense, constitutes the main "hypotheses" of the present study. That is, to the extent that the hypothesized features have merit, and to the extent that Thai roles and pronouns are properly coded in terms of these features, these predictions should be supported by empirical data.

Table 2 about here

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6. Thai Ss were asked to judge the selected pronoun-role combinations in terms of their anomaly, permissibility, or appropriateness. This empirical data was used as the criterion of success for the (discrete) semantic feature model. It also provided data with which to develop the continuous model, i.e., the determination, via factor analysis, of empirically viable features of role differentiation.

Method

Selection of a priori features for Thai pronouns and roles

Based upon a rational analysis of Thai pronouns and social roles, 11 features were selected. These features were:

Feature 1, Sex. Sex roles seem to be more differentiated in the rural social structure than in the urban one. The social structure of Thailand is still by and large rural and this is attested to by the fact that males and females use very different sets of pronouns when they address one another.

Feature 2 Age. In rural traditional Thai society, age is important. Old and young Thais use a different set of pronouns when talking to each other.

Table 2
Matrix of Predicted Pronoun-Role Intersects

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Father-Son	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1
2. Son-Father	1	0	-1	1	-1	-1	-1	-1	-1	-1	1	0	1	-1
3. Father-Daughter	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1
4. Daughter-Father	-1	0	1	-1	-1	-1	-1	-1	-1	-1	1	1	1	-1
5. Sr.Official-Jr.Official	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
6. Jr.Official-Sr.Official	1	1	1	1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1
7. Employer-Employee	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
8. Employee-Employer	1	1	1	1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1
9. Man-Woman	1	1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	0	1
10. Woman-Man	-1	1	1	-1	-1	-1	-1	-1	-1	0	1	-1	1	-1
11. Millionaire-Pauper	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
12. Pauper-Millionaire	1	0	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
13. Official-Citizen	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
14. Citizen-Official	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
15. Close Friend-Close Friend	-1	1	-1	-1	-1	-1	-1	-1		1	1	-1	1	1
16. Urbanite-Ruralite	1	1	1	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	1
17. Ruralite-Urbanite	1	1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
18. Adult-Child	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
19. Child-Adult	1	0	1	1	-1	1	-1	-1	1	0	1	0	1	-1
20. Lad-Lass	1	1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	0	1
21. Lass-Lad	-1	1	1	-1	-1	-1	-1	-1	-1	0	1	-1	1	-1
22. Mr. A-Opponent	1	0	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1
23. Elder Brother-Younger Br.	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1
24. Younger Br.-Elder Br.	1	1	-1	-1	-1	-1	-1	-1	-1	-1	1	-1	1	-1
25. Monk-Laymen	1	1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1
26. Laymen-Monk	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
27. Teacher-Pupil	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
28. Pupil-Teacher	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
29. Gentle People-Gentle Peo.	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
30. Father-in-law-Son-in-law	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1
31. Son-in-law-Father-in-law	1	1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
32. Mother-in-law-Daughter-l.	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1
33. Daughter-in-law-Mother-l.	-1	1	1	-1	-1	-1	-1	-1	-1	-1	1	-1	1	-1
34. Lover-Lover	1	1	1	-1	-1	-1	-1	-1	1	1	1	-1	1	1
35. Noble-Vulgar	1	1	1	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	1
36. Vulgar-Noble	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
37. Husband-Wife	1	1	-1	-1	-1	-1	-1	-1	-1	1	-1	-1	-1	1
38. Wife-Husband	-1	1	1	-1	-1	-1	-1	-1	-1	1	1	-1	1	-1
39. Doctor-Patient	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
40. Patient-Doctor	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
41. Local-Stranger	1	0	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
42. Seller-Customer	1	1	1	1	-1	-1	-1	-1	0	0	1	-1	0	0
43. Customer-Seller	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
44. Noble Boss-Commonner	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
45. Commonner-Noble Boss	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
46. Thai-Chinese	0	0	0	-1	-1	-1	1	1	-1	1	-1	0	-1	-1
47. Chinese-Thai	0	0	1	-1	-1	-1	1	1	1	1	-1	0	-1	-1
48. Prime Minister-Official	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
49. Official-Prime Minister	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
50. Officer-Private	1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
51. Private-Officer	1	1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
52. Educated-Uneducated	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

Table 2 (Continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
53. Uneducated-Educated	1	1	1	1	-1	-1	-1	-1	0	0	1	-1	1	-1
54. Hoodlum-Hoodlum	-1	-1	-1	-1	-1	-1	1	1	1	1	-1	1	1	-1
55. Official-Farmer	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
56. Farmer-Official	1	1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
57. Farmer-Farmer	1	1	-1	1	-1	-1	-1	-1	0	0	1	-1	0	0
58. Senior-Junior	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
59. Junior-Senior	1	1	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1
60. Angry Man-Mr. A	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1

Feature 3, Status. Status differences are very important in characterizing the use of different sets of proncuns in Thai society.

Feature 4, Formality. In a traditional sociaty, formality is often a virtue and conceived of as a sign of decency. Formality is also a social protocol through which role behaviors are carefully performed according to formal role expectations. Thus, it is a guarantee for smooth social interaction. In Thai social structure, formality is not only shown by observance of proper etiquettes, but also characterized by the use of special pronouns.

Feature 5, Urbanity. Social change takes a more rapid pace in the cities than in rural area. Thus, there are cultural differences between members of the urban and rural population. One distinct difference lies in the way in which they speak. City dwellers consider the language of the villagers rusty and clumsy. They also differ in the usage of pronouns, both in general and to each other.

Feature 6, Social Distance. This feature is a characteristic of the degree of intimacy within the interpersonal relationship. Thais use different pronouns to indicate different degress of distance.

Feature 7, Politeness. In the Thai social structure politeness is a highly valued social trait; it is emphasized in most social transactions. The modes of expressing politeness are numerous but one of these is manifested through the use of pronouns.

Feature 8, Nobility. Thailand (Siam) has been a kingdom, under the absolute monarchy, for more than a thousand years. The democratic form of government has been adopted only in 1932. The top social echelon in Thai society is still occupied by the nobility. A unique set of pronouns

is used in communicating with these people.

Feature 9, Potency. The Thais are quite conscious of their differences in power and status. In the early stages of interaction, they determine who is likely to be in control of the social power. Once the social relationship is determined, appropriate pronouns are used to indicate this power relationship. Thais are ill-at-ease when the nature of the relationship is in doubt; in fact, they will avoid communication with one another until the relative status has been determined.

Feature 10, Kinship. Kinship roles are the most basic and intimate. In the Thai family, instead of using the regular pronouns, the family members will use kinship terms in relating to one another. For example, the elder brother, when talking to the younger, will use the kinship term "Pee," meaning "Big Brother;" the younger brother will refer to himself as "Nong," meaning "Younger Brother." The kinship terms are also used with others outside the family circle to indicate warm acceptance. A considerable proportion of relationships within Thai social structure is based upon the kinship mode.

Feature 11, Titleship. This feature is closely associated with formal positions and roles. Where role relationships and interpersonal behaviors tend to be official, a formal set of pronouns will be used, often the titles themselves.

Selection of Social Roles and Thai Pronouns

Initially, 73 social roles, 18 first person pronouns, and 22 second person pronouns were examined. However, in order to make the research manageable, only 60 of the most common roles and 14 of the first person pronouns were finally selected.

Coding of Thai pronouns and roles. Each of the 14 pronouns and 60 roles were independently coded on each of the 11 features according to the following system: plus (+) if that item had the feature in its positive form; minus (-) if that item had a feature in its negative form; zero (0) if that item was not differentiated by the feature. The two sets of codings are presented in Tables 3 and 4 respectively. In Table 4, feature codings apply to the speaker, or the left-hand member of the role-pair.

Tables 3 and 4 about here

Subjects

The subjects for this study were 53 high school students from Thailand, studying in the United States for one year. There were 27 males and 26 females.

The Questionnaire

The construction of the questionnaire matrix was accomplished by writing (in Thai) the pronouns as column headings and the role-pairs as row headings. This resulted in a matrix of 60 x 14 cells. The Ss were asked to make a judgment of each cell and to indicate with a plus, if that combination was appropriate (congruent), with a minus if it was not appropriate (incongruent), and with a zero if it was acceptable (permissible). The behavioral context for each combination was described as being that of "talking to," e.g., "Father in talking to Son will use the pronoun_____ to represent himself."

Table 3

Coding for the Pronouns in Terms of the Eleven Features

	1	2	3	4	5	6	7	8	9	10	11
1 POM	1	-1	0	1	0	0	1	0	0	0	0
2 CHAN	0	0	0	0	0	0	1	0	0	0	0
3 DICHAN	-1	-1	0	1	1	0	1	0	0	0	0
4 KRAPOM	1	-1	-1	1	0	-1	1	0	-1	0	0
5 KHAPRACHO	0	0	1	1	0	-1	1	1	-1	-1	0
6 KLAOKR	1	-1	-1	1	1	-1	1	1	-1	-1	0
7 GOO	1	0	0	-1	0	0	-1	-1	1	0	-1
8 UAH	1	0	1	-1	0	1	-1	-1	0	0	0
9 GUN	1	0	0	-1	0	1	0	0	-1	-1	0
10 RAO	0	0	0	-1	-1	1	0	0	0	-1	0
11 NOOH	0	-1	-1	-1	0	1	0	0	-1	1	-1
12 KAO	0	0	0	-1	0	1	-1	0	0	0	0
13 NAME	0	0	-1	-1	0	1	0	0	0	0	0
14 KINSHIP	0	1	1	-1	0	1	0	0	1	1	0

Feature 1 Sex

Feature 2 Age

Feature 3 Status

Feature 4 Formality

Feature 5 Urbanity

Feature 6 Social Distance

Feature 7 Politeness

Feature 8 Nobility

Feature 9 Potency

Feature 10 Kinship

Feature 11 Titleship

Table 4

Codings for the Roles in Terms of the Eleven Features

		1	2	3	4	5	6	7	8	9	10	11
1	F-S	1	1	1	-1	0	1	1	-1	1	1	0
2	S-F	1	-1	-1	0	0	0	0	-1	-1	1	0
3	F-D	1	1	1	-1	0	1	1	-1	1	1	0
4	D-F	-1	-1	-1	0	0	1	0	-1	-1	1	0
5	SROJR	0	0	1	1	1	-1	1	0	1	-1	1
6	JROSR	0	-1	-1	1	1	-1	1	0	-1	-1	1
7	YERYEE	0	0	1	1	0	-1	1	0	1	-1	0
8	YEEYER	0	0	-1	1	1	-1	1	0	-1	-1	0
9	MANWO	1	0	0	0	0	0	1	0	1	0	0
10	WO-MAN	-1	0	-1	0	0	0	1	0	-1	0	0
11	MIL-PA	0	0	1	1	0	-1	1	0	1	0	0
12	PAU-MI	0	0	-1	1	0	-1	0	-1	-1	0	0
13	OFFCIT	0	0	1	1	1	-1	1	0	1	0	1
14	CITOFF	0	0	0	1	0	-1	1	-1	-1	0	0
15	CL-FR	0	0	0	-1	0	1	1	0	0	0	0
16	URB-RU	0	0	1	0	1	0	1	0	1	0	0
17	RU-URB	0	0	-1	1	-1	-1	1	-1	0	0	0
18	ADU-CH	0	1	1	1	0	-1	1	0	1	0	0
19	CHI-AD	0	-1	-1	0	0	0	0	0	-1	0	-1
20	LADLAS	1	0	0	0	0	0	1	0	1	0	0
21	LASSLA	-1	0	-1	0	0	0	1	0	-1	0	0
22	MRAOPP	1	0	0	0	0	-1	0	-1	1	-1	0
23	EB-YB	1	1	1	-1	0	1	1	-1	1	1	0
24	YD-EB	1	-1	-1	0	0	1	1	-1	0	1	0
25	MONKLA	1	0	1	1	0	0	1	0	0	0	1
26	LAYMON	0	0	-1	1	0	0	1	-1	0	0	0
27	YEACHP	0	1	1	1	0	0	1	-1	1	-1	1
28	PTEACH	0	-1	-1	1	0	0	1	-1	-1	-1	0
29	GEN-GE	0	0	0	1	1	0	1	0	1	0	0
30	F1-S1	1	1	1	0	0	1	1	-1	1	1	0
31	S1-F1	1	-1	-1	1	0	0	1	-1	0	1	0
32	M1-D1	-1	1	1	0	0	1	1	-1	1	1	0
33	D1-M1	-1	-1	-1	0	0	1	1	-1	0	1	0
34	L-L	0	0	0	0	0	1	1	-1	0	0	0
35	NOB-VU	0	0	1	0	1	0	1	1	1	0	1
36	VUL-NO	0	0	-1	1	0	0	1	-1	-1	-1	-1
37	H-W	1	0	1	0	0	1	1	-1	1	0	0
38	W-H	-1	0	0	0	0	1	1	-1	-1	0	0
39	DR-PAT	0	0	1	1	0	0	1	-1	1	-1	1
40	PAT-DR	0	0	0	1	0	0	1	-1	0	-1	0
41	LOC-ST	0	0	0	1	0	-1	0	-1	1	-1	0
42	SELL-C	0	0	0	0	0	0	1	-1	0	0	-1
43	C-SELL	0	0	0	1	0	-1	1	-1	1	-1	0

Table 4 (Continued)

		1	2	3	4	5	6	7	8	9	10	11
44	NB-COM	0	0	1	1	1	-1	1	1	1	-1	1
45	COM-NB	0	0	-1	1	0	-1	1	-1	-1	-1	-1
46	T-CHI	0	0	1	0	0	0	0	0	1	-1	0
47	CHI-T	0	0	1	0	1	0	0	-1	0	-1	-1
48	PRIM-O	1	0	1	1	1	0	1	1	1	-1	1
49	OF-PRI	0	0	-1	1	1	0	1	-1	0	-1	1
50	OF-PRIV	1	0	1	1	0	0	0	-1	1	-1	1
51	PRIV-O	1	0	-1	1	0	0	1	-1	0	-1	-1
52	ED-UN	0	0	1	1	1	0	1	1	1	-1	0
53	UN-ED	0	0	-1	0	0	0	1	-1	0	0	-1
54	HOOL-HV	1	0	0	-1	0	0	-1	-1	0	-1	-1
55	OF-FAR	1	0	1	1	1	-1	1	1	1	-1	1
56	FARM-C	0	0	-1	0	-1	-1	1	-1	-1	-1	-1
57	FARM-F	0	0	0	0	-1	0	1	-1	0	0	-1
58	SR-JR	0	0	1	1	0	0	1	1	1	0	1
59	JR-SR	0	-1	0	1	0	0	1	0	0	0	1
60	AM-MRA	1	0	0	1	0	-1	-1	0	1	-1	0

Scoring procedures

Each cell of the questionnaire matrix was tabulated across Ss: a plus was tallied as a three, a zero as a two, and minus as a one. The average was then taken of each total, resulting in a score ranging in value from one to three. This provided data for the factor analysis. These averages were also converted back into discrete form so that the distribution of predicted +'s, 0's, and -'s, matched the distribution of obtained +'s, 0's, and -'s as nearly as possible. This provided a criterion for the discrete semantic feature model. The averaged data matrix is shown in Table 5.

Table 5 about here

Analysis

The Ss' data matrix was used as the criterion for judging the adequacy of the predicted matrix and, hence, the adequacy of the a priori analysis. Comparisons between predicted and obtained matrices yielded a residual matrix.

If the subjects' data is predicted perfectly, the residual matrix will be a zero matrix. On the other hand, if the data matrix is not predicted perfectly, the residual matrix will contain some "1's," proportional to the number of mistakes made in prediction. Plus 1's and "-1's" are considered "patchable" errors, while a "90" arbitrarily designates an "unpatchable" error. A "+1" means that the combination was predicted as a "0" but Ss judged it as a "+1"; a "-1" means that it was predicted as a "0" whereas Ss judged it as a "-1"; a "90" means that it

Table 5

Data Matrix

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.	Father-Son	0	1	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	1
2.	Son-Father	1	0	-1	1	-1	-1	-1	-1	-1	-1	0	-1	1	1
3.	Father-Daughter	-1	1	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	1
4.	Daughter-Father	-1	0	0	-1	-1	-1	-1	-1	-1	-1	1	-1	1	0
5.	Sr.Official-Jr.Off.	1	1	0	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
6.	Jr.Official-Sr.Off.	1	0	1	1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
7.	Employer-Employee	1	1	0	-1	-1	-1	-1	0	0	0	-1	-1	-1	-1
8.	Employee-Employer	1	0	1	1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
9.	Man-Woman	1	0	-1	0	-1	-1	-1	-1	-1	0	-1	-1	0	-1
10.	Woman-Man	-1	1	1	-1	-1	-1	-1	-1	-1	0	-1	-1	0	0
11.	Millionaire-Pauper	1	1	0	-1	-1	-1	0	0	-1	0	-1	-1	-1	-1
12.	Pauper-Millionaire	1	0	1	1	0	0	-1	-1	-1	-1	-1	-1	-1	-1
13.	Official-Citizen	1	1	1	0	0	-1	-1	-1	-1	0	-1	-1	-1	-1
14.	Citizen-Official	1	1	1	1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
15.	Close Friend-Cl.Fr.	1	1	0	-1	-1	-1	1	1	1	1	-1	0	1	-1
16.	Urbanite-Ruralite	1	1	1	-1	0	-1	-1	-1	0	0	0	-1	-1	-1
17.	Ruralite-Urbanite	1	1	1	1	0	-1	-1	-1	-1	-1	0	-1	-1	-1
18.	Adult-Child	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	0
19.	Child-Adult	1	0	1	1	-1	-1	-1	-1	-1	-1	1	-1	0	0
20.	Lad-Lass	1	0	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	0	-1
21.	Lass-Lad	-1	1	1	-1	-1	-1	-1	-1	-1	0	0	-1	1	-1
22.	Mr.A-Opponent	0	1	-1	-1	-1	-1	1	1	0	0	-1	-1	-1	-1
23.	Elder Brother-Yo.B.	0	1	-1	-1	-1	-1	-1	-1	0	0	-1	-1	0	1
24.	Younger Br.-Elder B	1	0	-1	-1	-1	-1	-1	-1	-1	0	0	-1	1	1
25.	Monk-Layman	-1	-1	-1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
26.	Layman-Monk	1	0	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
27.	Teacher-Pupil	0	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
28.	Pupil-Teacher	1	0	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
29.	Gentle People-Ge.P.	1	1	1	0	0	-1	-1	-1	-1	0	-1	-1	-1	-1
30.	Father-i-l-Son-i-l	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1
31.	Son-i-l-Father-i-l	1	0	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	1
32.	Mo-i-l-Dau.-i-law	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	1
33.	Dau.-i-l-Mo.-i-law	-1	1	1	-1	-1	-1	-1	-1	-1	-1	1	-1	0	0
34.	Lover-Lover	1	1	1	-1	-1	-1	-1	-1	-1	0	0	0	1	0
35.	Morale-Vulgar	1	1	0	-1	-1	-1	0	0	0	0	-1	-1	-1	-1
36.	Vulgar-Morale	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
37.	Husband-Wife	1	1	-1	-1	-1	-1	-1	-1	-1	0	-1	-1	0	1
38.	Wife-Husband	-1	1	1	-1	-1	-1	-1	-1	-1	0	0	-1	1	1
39.	Doctor-Patient	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
40.	Patient-Doctor	1	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
41.	Local-Stranger	1	1	1	-1	-1	-1	-1	-1	-1	0	-1	-1	-1	-1
42.	Seller-Customer	1	1	1	0	-1	-1	-1	-1	-1	0	-1	-1	-1	-1

Table 5 (continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
43. Customer-Seller	1	1	1	0	-1	-1	-1	-1	-1	0	-1	-1	-1	-1
44. Noble Boss-Commons	1	1	0	-1	0	-1	-1	-1	-1	0	-1	-1	-1	-1
45. Commons-Noble Boss	1	0	1	1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1
46. Thai-Chinese	1	1	1	-1	-1	-1	-1	1	-1	-1	-1	-1	-1	-1
47. Chinese-Thai	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
48. Prime Min.-Official	1	1	-1	-1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1
49. Official-Prime Min.	1	-1	1	1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
50. Officer-Private	1	1	-1	-1	0	-1	-1	0	-1	-1	-1	-1	-1	-1
51. Private-Officer	1	-1	-1	1	-1	0	-1	-1	-1	-1	-1	-1	-1	-1
52. Educated-Uneducated	1	1	1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
53. Uneducated-Educated	1	1	1	0	-1	-1	1	0	0	0	-1	-1	-1	-1
54. Hoodlum-Hoodlum	0	-1	-1	-1	-1	-1	1	1	1	0	-1	-1	-1	-1
55. Official-Farmer	1	1	0	-1	0	-1	-1	-1	-1	0	-1	-1	-1	-1
56. Farmer-Official	1	1	1	1	0	-1	-1	-1	-1	0	-1	-1	-1	-1
57. Farmer-Farmer	1	1	0	-1	-1	-1	1	0	0	1	-1	-1	-1	-1
58. Senior-Junior	1	1	0	-1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
59. Junior-Senior	1	0	1	1	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
60. Angry Man-Mr. A	1	1	-1	-1	-1	-1	1	1	-1	0	-1	-1	-1	-1

is predicted either as a "-1" and Ss judged a "+1" or as a "+1" and Ss gave a "0." Patchable errors are errors that can be corrected by adding one or more new codings (or features) to the appropriate words, whereas the unpatchable errors cannot be corrected in this manner since the Ss' judgment already vetoes existing feature codings. The latter can only be corrected through reversing the codings on earlier features.

Results

The Discrete Model: Initial Success of Prediction

In practice, the special computer program was designed to first derive the predicted matrix and then compare it to the averaged data matrix. Cut-off values, used to convert the averaged data matrix into discrete values for this comparison were set at 1.20 and 1.35. All cell averages less than or equal to 1.20 were assigned a minus; all entries equal to or greater than 1.35 were assigned a plus. These cut-offs produced frequencies of discrete values approximately comparable to the distribution predicted on the basis of a priori features.

Results showed that, while the percentage of successfully predicted cells was quite high (65), the percentage of apparent errors in coding was notable. Inspection of the residual matrix revealed that errors in coding clustered about particular rows and columns. For example, three pronouns, alone, accounted for forty-six percent of the "unpatchable" errors. Upon re-examination of these codings, errors in the a priori analysis became apparent: for example, Krapom had been coded as Urban (+1 on feature #5), ye the speaker need not be so characterized: rural people will also use this pronoun whenever they are addressing an urbanite, or a person of

comparable prestige, e.g., a monk.

Further, possible errors in coding were examined. These errors were very instructive. They demonstrated, not only the hazards involved in relying upon a single expert as 'representative of his culture' but, in a very limited fashion, the difficulties which must confront a foreigner when he attempts to infer, generalize, and make sense out of behavioral situations in a different culture. Assuming that he tries to formulate a rule, in order to guide his own behavior, he may encounter these complexities:

1. The situation in which a personal pronoun is used will often times determine its meaning. For example, Kao is neither polite nor impolite when it is used to address close friends: when used outside of friendships, it is definitely rude. Uah is an example of a pronoun which is coded (on a feature) only when the situation is similarily coded: when status differences exist, Uah reflects status, otherwise it remains neutral. A final, complex example of situational determinism is found in Gun. This pronoun was originally coded zero on the potency feature, since it is used among friends as well as distant subordinates. However, when used within friendships it refers to a select type -- dependent, emotional, and primarily female. A company of thieves or hoodlums would never use Gun when referring to themselves!

2. Situational or role requirements may be independent of the characteristics of persons assuming these roles. It is an easy, and perhaps natural, mistake to conclude that certain regularities in the characteristics of people who assume particular roles are essential attributes of the roles themselves. Thus, in the example cited earlier, the pronoun Krapom is used most frequently by Urbanites. However, this does not mean that it reflects

the Urban qualities of the speaker. (It actually refers to the person addressed.) Since Urbanites most often address one another, the frequency with which they use Krapom was mistakenly assumed to be a semantic requirement for the pronoun itself. A similar case holds for the word Kha pra cho. It is used in matters of official business, either public office or business negotiations. Since males mostly predominate in these activities, the pronoun was given a plus on feature #1 (sex). Yet, it became apparent that, were a female to write a business letter or address a group in an official capacity, she, too, would use Kha pra cho.

3. When role requirements and behavioral characteristics conflict, interpretation of personal intentions and motives may determine the semantics. For example, Pom was originally coded zero on feature #2 (age) since it is used by both juniors and seniors. However, when it is used by a senior, it is with the intention of equalizing power differences. Thus, a professor might use Pom in order to ease possible inhibitions in the students due to age and status differences. Dichan, the female version of Pom, may be used in an equivalent fashion.

The remainder of the coding errors seemed to be attributable to the "unreliability" of our Thai judge (one of the writers, W. W.). Since many of the elaborate role distinctions are known to be breaking down in recent times, he had somewhat overestimated the rate of change. Thus, many of the coding changes suggested by the subject data were more extreme than the initially judged (neutral) codings, e.g., more potentcy, or more rudeness, etc. A particularily interesting example is Kha pra cho which is derived from Kha poh cho. Before 1932 (the time of change from absolute to constitutional monarchy), Kha poh cho was used exclusively by inferiors.

Now, its modern form has taken the opposite dennotation: the King even refers to himself as Kha pra cho. But, because the King is criticized for this (by the more linguistically sophisticated) and because of the unusual historical reversal in meaning, we judged this word to be neutral (or, more precisely, ambivalent) with respect to the Status feature. But young Thai (high school) subjects disagree: from their judgments of appropriate usage, they give the pronoun full fledged status.

The rate of social change affecting feature #8, Nobility, was similarily overestimated. Originally, less than one-third of the social roles were given a signed coding on this feature. But, from the Ss' judgments of pronoun-role appropriateness, it appears that the feature is still operant. While the meaning of nobility may have become slightly modified, more akin to our concept of dignity, it remains an important feature. Thais may say "he looks noble" or "that is a noble suit."

A revision of the a priori Codings: Final Success of the Discrete Model

Since the present study was primarily designed to test the merits of semantic feature analyses, rather than the accuracy of the authors' intuition, feature codings, for both pronouns and roles, were changed in the directions indicated above. Approximately 10% of the codings were involved.

Comparison of the new predicted matrix with the data matrix revealed that 84% of the cells were correctly predicted. Appendix A shows the residual matrix, i.e., the cells inadequately predicted. The level of accuracy due to chance in this situation is given by the multiplication theorem of combining probabilities: the proportions of +'s, 0's, and -'s in

the predicted matrix (.25, .04, .65) when multiplied by corresponding values in the data matrix (.21, .14, .65) give a (sum) proportion .52. The obtained proportion of .84 departs from this hypothetical level by 18.56 standard deviations.[2] Another way of evaluating the obtained success is to compare it with the maximum success possible: given the imperfect match in the frequency distributions of the predicted and observed matrices, predictive accuracy is restricted to .90. The obtained accuracy, therefore, provides impressive support for the semantic feature approach.

The Continuous Model

The method of semantic feature analysis just described assumes discrete coding on features and absolute "all-or-nothing" interaction between pronoun and role-pair features. A quite different method is factor analysis; this method assumes continuous coding on features and algebraic interaction within shared features.

In order to compare the two models, the subjects' data matrix was factor analyzed by the Principal Components method. Six factors (Varimax rotation) were found to account for 94% of the total variance. Table 6 shows these six factors, together with their highest loadings.

Insert Table 6 about here

The first factor, which accounted for 40% of the variance, seems to cover the meanings of features 9 (Potentcy), 3 (Status), 8 (Nobility),

---

2

$$Z = \frac{\bar{X} - \mu}{\sigma_{\bar{X}}} = \frac{134-403}{14.49} = 18.56$$

Table 6

Results of Factor Analysis of Role Pairs
Varimax Rotation of Principal Axis Solution

Factor I; Potency, 40%

Roles	Loadings
7. Employer-Employee	-.884
9. Man-Woman	-.888
13. Official-Citizen	-.890
16. Urbanite-Ruralite	-.858
20. Lad-Lass	-.920
34. Lover-Lover	-.877
35. Noble-Vulgar	-.877
39. Doctor-Patient	-.915
41. Local-Stranger	-.855
43. Customer-Seller	-.860
44. Noble Boss-Commons	-.890
46. Thai-Chinese	-.864
48. Prime Minister-Official	-.927
50. Officer-Private	-.959
52. Educated-Uneducated	-.910
55. Official-Farmer	-.947
58. Senior-Junior	-.878

Table 6 (continued)

Factor II : Deference, 22%

Roles	Loadings
6. Junior Official-Senior Official	-.955
8. Employes-Employer	-.927
12. Pauper-Millionaire	-.918
14. Citizen-Official	-.860
26. Layman-Monk	-.970
45. Commoner-Noble Boss	-.898
49. Official-Prime Minister	-.966
51. Private-Officer	-.816
56. Farmer-Official	-.845
59. Junior-Senior	-.890

Factor III : Kinship, 11%

1. Father-Son	-.977
3. Father-Daughter	-.972
23. Elder Brother-Younger Brother	-.968
24. Younger Brother-Elder Brother	-.740
30. Father-in-law-Son-in-law	-.927
32. Mother-in-law-Daughter-in-law	-.896

Factor IV : Sex, 10%

10. Woman-Man	-.890
21. Lass-Lad	-.939
38. Wife-Husband	-.820

Table 6 (continued)

Factor V : Age, 5%

Roles	Loadings
2. Son-Father	.205
4. Daughter-Father	.880
19. Child-Adult	.529
28. Pupil-Teacher	.657
33. Daughter-in-law-Mother-in-law	.846

Factor VI : Social Distance (Hostility), 6%

32. Mr. A - Opponent	.920
47. Chinese-Thai	.410
54. Hoodlum-Hoodlum	.900
60. Angry Man - Mr. A	.865

11 (Titleship). This factor was named "Potentcy."

Factor II seems to be related to feature 7 (Politeness) as well as to respect and deference. Thus, it is named "Deference." This factor accounted for 22% of the variance.

Factor III corresponds to feature 10 (Kinship). The Kinship factor accounted for 11% of the variance.

Factor IV seems to correspond to feature 1 (Sex). The Sex factor accounted for 10% of the variance.

Factor V accounted for 5% of the variance and seems to suggest an Age factor corresponding to feature 2 (Age).

Factor VI is clearly in the direction of hostility and social distance corresponding to feature 6. This Social Distance factor accounted for 6% of the variance. These factors are summarized in Table 7.

Insert Table 7 about here

On the basis of the law of parsimony, these six factors might be conceived as basic dimensions underlying the 11 features initially hypothesized. In other words, semantic patterns of role differeniation may be composed of only six basic features as found in the factor analysis. If this implication is correct, we should expect to find substantial correlations among the 11 features. The results are in this direction.

Table 8 shows the contingency coefficients among features. For example, the correlation between Potency and Status, features identified within Factor I, is +.63. Correlations as high as this raise the question of possible redundancies among features and make it necessary to reexamine the utility of the 11 semantic features considered individually.

Table 7

Summarized Results of Factor Analysis of Roles

Factor	Proposed Identity	% Variance	Corresponding A Priori Features
I	Potency	40	Potency, Status, Nobility Titleship
II	Deference	22	Politeness
III	Kinship	11	Kinship
IV	Sex	10	Sex
V	Age	5	Age
VI	Social Distance (Hostility)	6	Social Distance

Insert Table 8 about here

Differentiating Power of the Features

In order to gain some insight into the relative contributions of the features, the distribution of codings for each feature was calculated. The differentiating power (D.P.) of a feature was defined as the relative frequency with which a given feature characterized the various roles and pronouns. Each D.P. was derived from the following formula:

$$D.P. = \frac{\text{Number of observed codings}}{\text{Number of possible codings}} \times 100$$

Table 9 shows the differentiating power of the 11 features. Note that feature 7 (Politness) has the highest value (D.P. = 85) for this set of 74 roles and pronouns. It also contributes the most frequent positive codings to the role differentiation. The strong contribution of this feature implies that Thai interpersonal relationships are primarily characterized by politeness. Thai children are indeed taught at an early age to be "Riab roi" in any interpersonal situation. The concept of "Raib roi" is equivalent to "polite and well-behaved."

Feature 3 (Status) ranks second in DP value (73) and its contribution is almost equally divided between positive and negative codings. Status difference is a major characteristic of Thai interpersonal relationship. The consciousness of status differences among Thais is reflected in the social protocol so that, when a Thai speaks with another, he always keeps in mind his rank relative to that of the person addressed and chooses his pronouns with due consideration for such rank (remembering also that

Table 8
Contingency Correlations Among the 11 Features

	1	2	3	4	5	6	7	8	9	10	11
1		.30	.19	.39**	.24	.32	.27	.18	.27	.39**	.27
2			.54**	.30	.24	.38**	.21	.21	.49**	.58**	.20
3				.21	.29	.13	.29	.37*	.63**	.33	.43**
4					.34	.62**	.49**	.29	.16	.45**	.40**
5						.36*	.26	.48**	.24	.32	.46**
6							.22	.25	.36*	.54**	.39**
7								.21	.25	.25	.25
8									.27	.40**	.43**
9										.26	.36*
10											.32

*For df = 4, N = 74, C $\geqq$ .35 is significant at the .05 level.

**C $\geqq$ .39 is significant at the .01 level.

Insert Table 9 about here

---

politeness demands that his own rank be slightly depreciated and that of the other be appreciated).

The third-ranking feature is Potency (Feature 9) which is charactered by power, control, strong will, and authority. Thomas (1962), who taught in Thailand, commented on the Thais' aspiration for power as follows:

> "Traditionally the attainment of prestige and power have been the goals accorded highest priority in this value system. Such prestige and power are found only in governmental service, either in the military or the bureaucracy. As one rises in rank, he has "power" over larger numbers of subordinates-and an official's power, as well as prestige, is measured by the number of his subordinates and their ranks, the scope of activity of his unit and the size of its clientele."

Indeed, in almost all social and professional transactions in Thai society, relations are arranged so as to take account of superordinate-subordinate relationships. This practice is perhaps due, in large part, to the fact that the Thai social structure is traditional and authoritarian in nature.

The ensuing eight features are also ranked according to their DP values. It will be noticed that there is only a rough parallel between the differentiating power of the *a priori* features and the rank order of the factors. Politeness, while the most richly coded *a priori* feature, was identified in the factor analyses as accounting for only 22% of the variance. Similarily, Formality, a feature of moderate consequence according to its differentiating power (DP), appeared as a factor of minor importance.

One reason for this lack of correspondence has to do with the nature of factor analysis. The extent to which a variable can emerge as a common

Table 9

Differentiating Power of the *a priori* Features

Feature	Positive	Zero	Negative	DP	Rank
1. Sex	24	43	7	42	8
2. Age	8	52	14	29	10
3. Status	27	23	24	69	2
4. Formality	37	24	13	68	3.5
5. Urbanity	15	56	3	24	11
6. Social Distance	19	34	21	54	7
7. Politeness	55	14	5	81	1
8. Nobility	8	29	37	61	5
9. Potency	31	24	19	68	3.5
10. Kinship	12	33	29	55	6
11. Titleship	14	48	12	35	9

factor is limited by its correlation with other variables. This, in turn, is limited by its variance. If a particular variable (or feature) is richly coded, yet has a sufficiently small variance (i.e., a lopsided distribution of codings), its importance in the factor analysis will be confined. Yet, such a feature may still be critical in the structure of (differeniated) behaviors.

A hierarchy of features. To test the foregoing, the contingency relationships among features were re-examined. Approximately one-half of these relationships showed a particular type of patterning which could not be recognized via factor analysis. Often, one feature was observed to be nested within another: e.g., unless the (primary) feature was coded plus, the secondary feature was not operant. Politeness functioned in this way, most of the other features being dependent upon its presence.

This nesting, or hierarchical ordering, appears related, but not restricted, to the variance of the features. Obviously, if a feature is skewed as much as Politeness was most other features, if at all related, will appear to be nested. Yet, this is not an essential condition for nested relationships. Titleship (#11) and Kinship (#10) both have moderately sized variances, but are ordered such that Titleship is nested within Kinship: the use of formal, official titles being reserved for interactions outside of the family. Similarily, the nesting of Urbanity (#5) within Social Distance (#6) is not predestined by the coding frequencies of the two features.

Figure 1 illustrates the nested relationships among the variables. Notice that the ordering yields a single hierarchy of transitive relationships, e.g., since #3 is within #4, and #4 is within #1, #3 is also within

#1. This transitivity is applicable to the extent that, of the 28 'predicted' nestings illustrated in Figure 1, 24 were actually found in the contingency relationships among features. Appendix B presents the relevant contingencies.

Insert Figure 1 about here

Subsidiary Results: Role Differeniation

Leaving now, an examination of the features or factors per se, we turn to the Thai social roles themselves. In a manner analogous to the differeniation of features, we may ask how the roles are differentiated. Either factor scores or feature scores could be used to answer this question. Since feature scores are somewhat easier to compute, an Index of Role Differentiation was devised:

$$\text{IRD} = \frac{\text{\# of codings for a particular role}}{\text{\# of possible codings}}$$

The computed IRD values along with the frequency distribution of positive and negative codings are presented in Table 10.

Insert Table 10 about here

In general, the family roles are highly differentiated. The Father-Son and Father-Daughter roles have IRD values of .82; Son-Father, Daughter-Father have IRD values of .55 and .64, respectively. The Elder Brother-Younger Brother role has an IRD of .82; the reverse role has an IRD of .64. By the same token, Father-in-law-Son-in-law have IRD values of .73, while the reciprocal role has a value of .64.

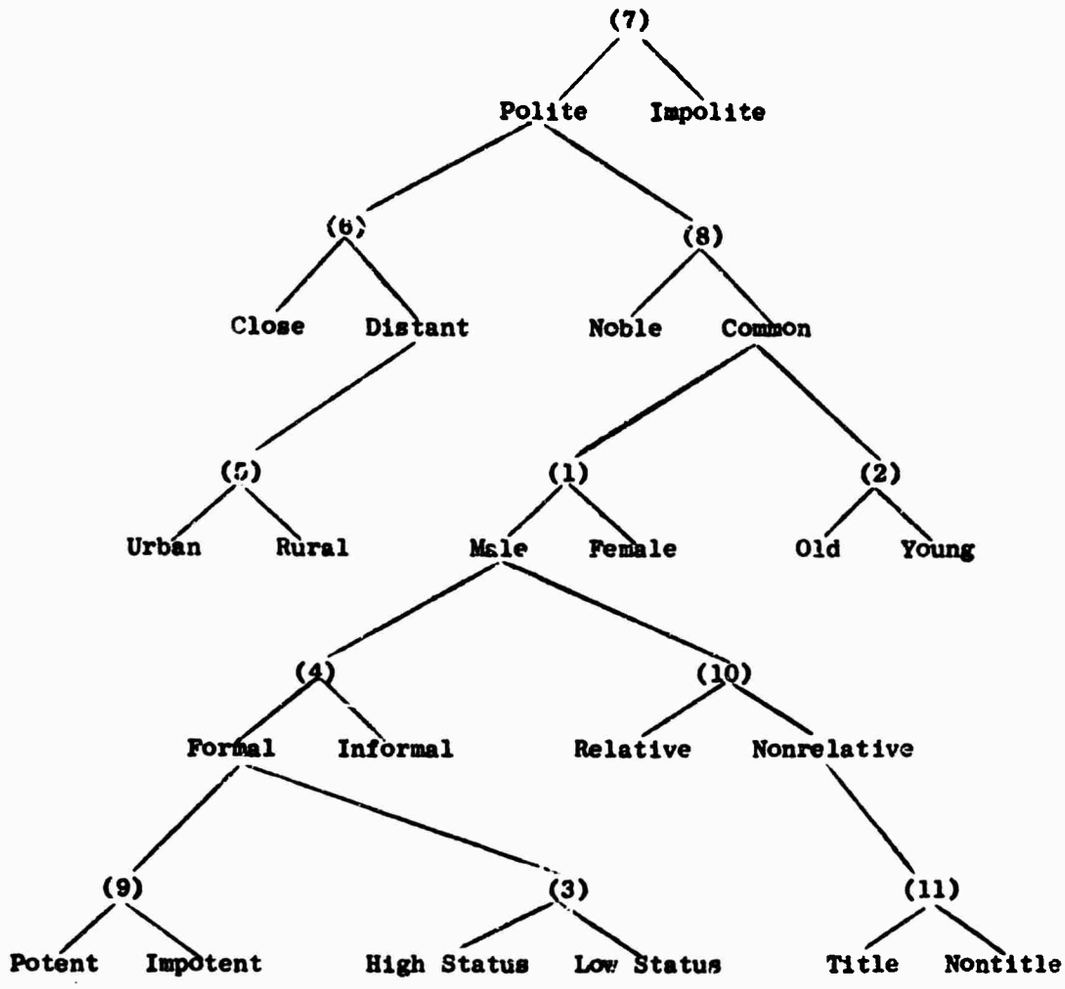

Figure 1 Hierarchic Representation of the 11 Features

Table 10

Index of Role Differentiation

Role	Positive	Negative	IRD
1. Father-Son	7	2	.82
2. Son-Father	2	4	.55
3. Father-Daughter	7	2	.82
4. Daughter-Father	2	5	.64
5. Senior Official-Junior Official	6	2	.73
6. Junior Official-Senior Official	4	5	.82
7. Employer-Employee	4	2	.55
8. Employee-Employer	3	4	.64
9. Man-Woman	3	0	.27
10. Woman-Man	1	3	.36
11. Millionaire-Pauper	4	1	.45
12. Pauper-Millionaire	1	4	.45
13. Official-Citizen	6	1	.64
14. Citizen-Official	2	3	.45
15. Close Friend-Close Friend	2	1	.27
16. Urbanite-Ruralite	4	0	.36
17. Ruralite-Urbanite	2	4	.55
18. Adult-Child	5	1	.55
19. Child-Adult	0	4	.36
20. Lad-Lass	3	0	.27
21. Lass-Lad	1	3	.36
22. Mr. A - Opponent	2	3	.45
23. Elder Brother-Younger Brother	7	2	.82

Table 10 (Continued)

Role	Positive	Negative	IRD
24. Younger Brother-Elder Brother	4	3	.64
25. Monk-Layman	5	0	.45
26. Layman-Monk	2	2	.36
27. Teacher-Pupil	6	2	.73
28. Pupil-Teacher	2	5	.64
29. Gentle People-Gentle People	4	0	.36
30. Father-in-law-Son-in-law	7	1	.73
31. Son-in-law-Father-in-law	4	3	.64
32. Mother-in-law-Daughter-in-law	6	2	.73
33. Daughter-in-law-Mother-in-law	3	4	.64
34. Lover-Lover	2	1	.27
35. Noble-Vulgar	6	0	.55
36. Vulgar-Noble	2	5	.64
37. Husband-Wife	5	1	.55
38. Wife-Husband	2	3	.45
39. Doctor-Patient	5	2	.64
40. Patient-Doctor	2	3	.36
41. Local-Stranger	2	3	.45
42. Seller-Customer	1	2	.27
43. Customer-Seller	3	3	.55
44. Noble Boss-Commons	7	2	.82
45. Commons-Noble Boss	2	6	.64
46. Thai-Chinese	2	1	.27
47. Chinese-Thai	2	3	.45

Table 10 (continued)

Role	Positive	Negative	IRD
48. Prime Minister-Official	8	1	.82
49. Official-Prime Minister	4	3	.64
50. Officer-Private	5	2	.64
51. Private-Officer	3	4	.64
52. Educated-Uneducated	6	1	.64
53. Uneducated-Educated	1	3	.36
54. Hoodlum-Hoodlum	1	5	.55
55. Official-Farmer	8	2	.91
56. Farmer-Official	1	7	.73
57. Farmer-Farmer	1	3	.36
58. Senior-Junior	6	0	.55
59. Junior-Senior	[illegible]	1	.36
60. Angry Man-Mr. A	3	3	.55

Of particular interest is the Official-Farmer role which has the highest IRD value for this set of 60 roles. This role (R-55) seems to be the "role of aspiration" for the farmers as well as the common citizenry. This preferred role is indicative of the special status given officials in the way they are addressed by the Thai people. When one achieves high rank in the bureaucracy he is said to be "pen yai pen to," meaning "large and big," and is informally referred to by the people as "chow-nai" (master). When they address him formally they use his official title or position, never his name, and they normally add the term "tahn" which means "Sir" or "Mister" before his title to demonstrate their respect.

The "role of aspiration" is significantly related to the official roles. This generalization is based on the fact that all official roles are highly differentiated:

R-5 : Senior Official-Junion Official, IRD = .73

R-6 : Junior Official-Senior Official, IRD = .82

R-13 : Official-Citizen, IRD = .64

R-44 : Noble Boss-Commoner, IRD =.82

R-48 : Prime Minister-Official, IRD = .82

R-55 : Official-Farmer, IRD = .91

It is apparent from the interpretations of the DP and IRD that the semantic patterns of Thai role differentiation are shaped by the Thai social structure and its dominant value orientation. This tentative finding is then in accord with the basic assumption that role criteria are internalized into features of semantic patterns of role differentiation.

Discussion

Semantic features (or factors) have been shown to be useful in predicting first-person pronouns appropriate for various social relationships. Distinctions which Thais make in their behavior with one another can be codified and can be applied to both pronouns and situational relationships. This junction of common features allows one to predict from the relevant situations to the preferred pronoun; or, vice versa, knowing the speaker's reference to himself, we can infer the nature of the social relationship. This orderly relation is not so much a product of statistical technique as it is a product of long cultural tradition.

The regularities of Thai behavior, however, provide interesting data with which competing mathematical models may exercise their skill. The advantages of factor analysis, for any role 'differential' of this type, are obvious: it required no prior knowledge of the relevant domain yet provides a parsimonious set of (derived) variables which are ordered in terms of their importance.

A possible disadvantage of factor analysis as a model of performance is that, in order to predict any particular pronoun-role outcome, a regression equation is called for. Surely, a speaker does not add alpha and beta regression weights for potency and politeness in order to figure out how he should refer to himself. Oddly, enough, he might well do this! The work of Brunswick (1956), Hammond, Wilkins, & Todd (1966) indicate that regression equations fit performance data very well. This is not to imply that the speaker is aware of, or could even understand, the notion of regression analysis. But he operates as though this were the case. In terms of predicting the speakers performance, then, factor analysis seems sufficient.

Another exceedingly useful model, or method of analysis, is feature analysis. While it cannot be compared directly -- one maximizes the percent of accurately predicted variance, the other maximizes the number of accurate predictions--it can offer further insight into the structure of role differentiation. Assuming that the present set of features, 84% successful, constitutes an acceptable model, we can represent the Thai data in terms of an ordered hierarchy of features. In this case, the speaker rather quickly proceeds though a series of almost dichotomous codings in order to arrive at the final and sufficient distinction between himself and the listener. He follows an ordered branching process in which, for any pair of features, one is subsumed by the other.

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Appendix A

Appendix A

Residual Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Father-Son	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2. Son-Father	0	-1	0	0	0	0	0	0	0	0	90	-1	0	90
3. Father-Daughter	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4. Daughter-Father	0	0	90	0	0	0	0	0	0	0	0	-1	0	90
5. Sr.Official-Jr.Off.	0	0	90	0	90	0	0	0	0	0	0	0	0	0
6. Jr.Official-Sr.Off.	0	90	0	0	90	-1	0	0	0	0	0	0	0	0
7. Employer-Employee	0	0	90	-	-	-	-	90	0	90	0	0	0	0
8. Employee-Employer	0	0	0	0	0	-1	0	0	0	0	0	0	0	0
9. Man-Woman	0	90	0	90	0	0	0	0	0	-1	0	0	-1	-1
10.Woman-Man	0	0	0	0	0	0	0	0	0	0	-1	0	90	0
11.Millionaire-Pauper	0	0	-1	0	0	0	90	90	0	0	0	0	0	0
12.Pauper-Millionaire	0	0	0	0	90	90	0	0	0	0	0	0	0	0
13.Official-Citizen	0	0	0	90	90	0	0	0	0	0	0	0	0	0
14.Citizen-Official	0	0	0	0	90	0	0	0	0	0	0	0	0	0
15.Close Friend-Cl.Fr.	90	0	0	0	0	0	90	90	0	0	-1	90	0	-1
16.Urbanite-Ruralite	0	0	0	0	0	0	0	[illegible]	0	0	90	0	0	-1
17.Ruralite-Urbanite	0	0	90	0	0	0	0	0	0	0	0	0	0	0
18.Adult-Child	90	0	0	0	0	0	0	0	0	0	0	0	0	90
19.Child-Adult	0	0	0	0	0	-1	0	0	-1	-1	0	-1	0	90
20.Lad-Lass	0	90	0	0	0	0	0	0	0	0	0	0	0	-1
21.Lass-Lad	0	0	0	0	0	0	0	0	0	0	-1	0	0	0
22.Mr. A.-Opponent	0	1	0	0	0	0	0	90	0	90	0	0	0	0
23.Elder Br.-Younder B.	90	0	0	0	0	0	0	0	0	90	0	0	90	0
24.Younger Br.-Elder B.	0	0	0	0	0	0	0	0	0	0	-1	0	0	90
25.Monk-Layman	-1	-1	0	0	90	0	0	0	0	0	0	0	0	0
26.Layman-Monk	0	90	0	0	0	0	0	0	0	0	0	0	0	0
27.Teacher-Pupil	0	0	0	0	0	0	0	0	0	0	0	0	0	0
28.Pupil-Teacher	0	0	0	0	0	0	0	0	0	0	90	0	0	0
29.Gentle Peo.-Gen.Peo.	0	0	0	90	0	0	0	0	0	0	0	0	0	0
30.Father-i-l-Son-i-l	90	0	0	0	0	0	0	0	0	0	0	0	0	0
31.Son-i-l-Father-i-l	0	-1	0	90	0	0	0	0	0	0	0	0	0	90
32.Mo.-i-l-Da.-i-law	0	0	0	0	0	0	0	0	0	0	0	0	0	0
33.Da.-i-l-Mo-i-l	0	0	0	0	0	0	0	0	0	0	0	0	90	90
34.Lover-Lover	0	0	0	0	0	0	0	0	-1	-1	-1	0	0	-1
35.Noble-Vulgar	0	0	90	90	0	0	90	0	0	0	0	0	0	-1
36.Vulgar-Noble	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37.Husband-Wife	0	0	0	0	0	0	0	0	0	90	0	0	90	0
38.Wife-Husband	0	0	0	0	0	0	0	0	0	-1	-1	0	0	90
39.Doctor-Patient	0	0	0	0	0	0	0	0	0	0	0	0	0	0
40.Patient-Doctor	0	0	0	0	0	0	0	0	0	0	0	0	0	0
41.Local-Stranger	0	1	0	0	0	0	0	0	0	0	0	0	0	0
42.Seller-Customer	0	0	0	90	0	0	0	0	-1	0	-1	0	-1	-1
43.Customer-Seller	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Appendix A (continued)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
44. Noble-Boss-Commoner	0	0	90	0	90	0	0	0	0	0	0	0	0	0
45. Commoner-Noble Boss	0	0	0	0	0	90	0	0	0	0	0	0	0	0
46. Thai-Chinese	1	1	1	0	0	0	-1	0	0	-1	0	-1	0	0
47. Chinese-Thai	1	1	0	0	0	0	-1	0	-1	-1	0	-1	0	0
48. Prime Minister-Official	0	0	0	0	90	0	0	0	0	0	0	0	0	0
49. Official-Prime Minister	0	-1	0	0	90	0	0	0	0	0	0	0	0	0
50. Officer-Private	0	1	0	0	90	0	0	0	0	0	0	0	0	0
51. Private-Officer	0	-1	0	0	0	90	0	0	0	0	0	0	0	0
52. Educated-Uneducated	0	0	0	0	0	0	0	0	0	0	0	0	0	0
53. Uneducated-Educated	0	0	0	90	0	0	90	0	0	-1	-1	0	-1	0
54. Hoodlum-Hoodlum	90	0	0	0	0	0	0	0	0	90	0	-1	-1	0
55. Official-Farmer	0	0	90	0	0	0	0	0	0	0	0	0	0	0
56. Farmer-Official	0	0	90	0	0	0	0	0	0	0	0	0	0	0
57. Farmer-Farmer	0	0	0	-1	0	0	90	90	0	1	-1	0	-1	-1
58. Senior-Junior	0	0	90	0	90	0	0	0	0	90	0	0	0	0
59. Junior-Senior	0	0	0	0	-1	-1	0	0	0	0	0	0	0	0
60. Angry Man-Mr. A	90	90	0	0	0	0	90	90	0	90	0	0	0	0

Appendix B: Contingency Tables Illustrating Nested Relationships Among Features

	#1				
		-	0	+	
	-	0	1	4	5
#7	0	1	9	4	14
	+	6	33	16	55
		7	43	24	

	#3				
		-	0	+	
	-	4	2	1	7
#1	0	14	13	16	43
	+	6	8	10	24
		24	23	27	

	#4				
		-	0	+	
	-	0	6	1	7
#1	0	6	11	26	43
	+	7	7	10	24
		13	24	37	

	#6				
		-	0	+	
	-	1	2	2	5
#7	0	3	5	6	14
	+	17	27	11	55
		21	34	19	

	#1				
		-	0	+	
	-	4	19	14	37
#8	0	3	19	7	29
	+	0	5	3	8
		7	43	24	

	#3				
		-	0	+	
	-	2	6	5	13
#4	0	9	8	7	24
	+	13	9	15	37
		24	23	27	

	#4				
		-	0	+	
	-	6	15	16	37
#8	0	7	8	14	29
	+	0	1	7	8
		13	24	37	

	#8				
		-	0	+	
	-	3	2	0	5
#7	0	7	7	0	14
	+	27	20	8	55
		37	29	8	

	#2				
		-	0	+	
	-	0	5	0	5
#7	0	4	9	1	14
	+	10	38	7	55
		14	52	8	

	#3				
		-	0	+	
	-	0	4	1	5
#7	0	6	4	4	14
	+	18	15	22	55
		24	23	27	

	#5				
		-	0	+	
	-	2	12	7	21
#6	0	1	25	8	34
	+	0	19	0	19
		3	56	15	

	#9				
		-	0	+	
	-	2	6	5	13
#4	0	7	8	9	24
	+	10	10	17	37
		19	24	31	

	#2				
		-	0	+	
	-	6	25	6	37
#8	0	7	20	2	29
	+	1	7	0	8
		14	52	8	

	#3				
		-	0	+	
	-	15	11	11	37
#8	0	8	12	9	29
	+	1	0	7	8
		24	23	27	

	#5				
		-	0	+	
	-	0	5	0	5
#7	0	0	13	1	14
	+	3	38	14	55
		3	56	15	

	#9				
		-	0	+	
	-	1	2	0	3
#5	0	15	19	22	56
	+	3	3	9	15
		19	24	31	

Appendix B (continued)

		#9			
		-	0	+	
#7	-	0	3	2	5
	0	6	3	5	14
	+	13	18	24	55
		19	24	31	

		#10			
		-	0	+	
#8	-	15	12	10	37
	0	8	19	2	29
	+	6	2	0	8
		29	33	12	

		#9			
		-	0	+	
	-	9	15	13	37
#8	0	8	9	12	29
	+	2	0	6	8
		19	24	31	

		#11			
		-	0	+	
	-	0	7	0	7
#1	0	9	24	10	43
	+	3	17	4	24
		12	48	14	

		#10			
		-	0	+	
	-	0	4	3	7
#1	0	20	21	2	43
	+	9	8	7	24
		29	33	12	

		#11			
		-	0	+	
	-	2	3	0	5
#7	0	3	10	1	14
	+	7	35	13	55
		12	48	14	

		#10			
		-	0	+	
	-	2	3	0	5
#7	0	7	3	4	14
	+	20	27	8	55
		29	33	12	

		#11			
		-	0	+	
	-	6	14	9	29
#10	0	5	23	5	33
	+	1	11	0	12
		12	48	14	

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13. ABSTRACT

Fourteen Thai first-person pronouns and sixty Thai social roles were scored on a common set of eleven features. Following a model of semantic feature analysis developed by Osgood, usage of the various pronouns within the various roles was predicted: appropriate (+), permissible (0), or incongrous (-). These predictions were obtained by multiplying feature codings on the pronouns with corresponding codings on the roles; the algebraic sum of these products yielded a +, 0, or - outcome for each pronoun-role combination.

Validity of the model was evaluated in terms of: the percentage of predictions which were accurate; correspondence of the semantic features with factors obtained through factor analysis; and the information revealed concerning the structure of Thai role differentiation.

Fifty-three Thai high school students were asked to judge the appropriateness of the 14 x 60 pronoun-role combinations. This data constituted the criteria for evaluating success of the semantic features and also provided material for the factor analysis.

Six factors were found to describe 94% of the variance. They appeared to incorporate nine of the eleven semantic features. These, in turn, accurately predicted 85% of the Ss' specific judgments. The semantic features further revealed a hierarchic, tree-like structure within the semantic patterns of Thai pronouns and social roles.

14. KEY WORDS

Thai
Roles
Pronouns
Semantic
Features
Factors