HIERARCHY AND LANGUAGE USE

— Andrea Ágnes Reményi —

INSTITUTE OF SOCIOLOGY, BUDAPEST UNIVERSITY
RESEARCH INSTITUTE FOR LINGUISTICS, HUNGARIAN ACADEMY OF SCIENCES

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HIERARCHY AND LANGUAGE USE:
A SOCIOLINGUISTIC STUDY OF ADDRESS
AT WORKPLACE HIERARCHIES
(DYADIC ANALYSIS)

ANDREA ÁGNES REMÉNYI

RESEARCH INSTITUTE FOR LINGUISTICS
BUDAPEST I., P.O. BOX 19. H-1250 HUNGARY
E-MAIL: remenyi@nytud.hu

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THEORETICAL LINGUISTICS PROGRAMME, BUDAPEST UNIVERSITY (ELTE)
RESEARCH INSTITUTE FOR LINGUISTICS, HUNGARIAN ACADEMY OF SCIENCES
1 Introduction

If we look around in task-oriented small groups surrounding us, we can see mostly hierarchically organized ones. Is this frequency accidental? Or is hierarchical organization a truly universal structural pattern of human communities? And if the latter is the case, what may be its cause? These are questions that organizational theory, theories of social structure, anthropology, etc. have been trying hard to explain. This paper is part of a long-term research attempting to answer the question of why. Here I will be studying how much hierarchical arrangement is a central, organizing value in a group, i.e. how far a group is status-oriented, and how hierarchies are made more or less stable with the help of language use — that is, trying to answer the question of how for now.

The study is based on two assumptions:

(a) hierarchical organization is a characteristic feature of human societies, above all in task-oriented groups: units organized on the basis of super- and subordination seem to be stabler (in the sense that they are less sensitive to subversion), and perhaps seem to be also more effective in solving complex tasks than egalitarian, horizontally organized groups. Why are hierarchical groups stabler and not horizontal ones? Superordinates are naturally

* Several people have been helping me in this project along the years. Special thanks are due to Róbert Angelusz, Péter Somlai and Tamás Rudas. Éva Fodor, Susan Gal, Jeff Harlig, Mária Heller, Juliet Langman, Csaba Pléh, Zoltán Szántó, Erika Varsányi and the members of the Tankör at the Linguistics Institute have made very helpful comments. And I’m particularly grateful to Zita Réger for her continuous personal and professional support.

1 In organizational theory, see Perrow (1986) for an overview, Petersen (1995b) for the principal-agent theory, Williamson (1975, 1985) or Petersen (1995a) for the transaction cost theory, and Granovetter (1985) for a substantial critique of the latter. In theories of social structure, see Lenski (1966) comparing functionalists (e.g. Talcott Parsons and Kingsley Davis) and conflict theorists (e.g. Ralf Dahrendorf), or Nan Lin (1987). In anthropology, see Dumont (1966/1980) for a structuralist view of the Indian caste system. A normative feminist approach is given by Iannello (1992). Freeman (1970/1995) is a must in anarchist feminism.
interested in stabilizing the organization, but why do subordinates not make all efforts to change a situation unfavourable to them?

(b) One, and not a negligible, aim of human communication is to chain interlocutors to their micro-status, thereby stabilizing micro-hierarchies that build up the macro-hierarchical whole. My sociolinguistic investigations try to reveal whether and how everyday verbal interaction supports (or hinders) the stabilization of the hierarchy.

1.1 Formal and informal hierarchies

Status is defined very generally as the value of a given position in any (formal or informal) hierarchy. Status positions are always dyadically perceived, relative to another person, that is, a person compares him/herself to somebody else. (How do people decide for themselves if they are powerful, rich or beautiful? In my opinion simply by never stopping comparing themselves to others. “I cannot say to be powerful/rich/beautiful/etc. as such, just more powerful/richer/more beautiful/etc. than somebody else”. ) Statuses are valid for both formal and informal hierarchies. Organizations will be called formal hierarchies, having a usually written/pre-formed structure, where the most important status differences: rank differences define power relations. Informal hierarchies, present both in and outside of organizations, are structures of status differences on one of several dimensions — the value system of a culture defines the importance of these dimensions relative to one another. For example, health, wealth, wisdom, beauty, physical build or strength, taste, expertise, ‘connections’, authority, membership in a religius, ethnic or professional group, or, for that matter, the ability to cook, to drive race-cars, or the size of the collection of Walt Disney memorabilia, etc. can each define an informal hierarchy, though the earlier-mentioned dimensions are usually of higher importance.
Power is defined as an individual's possibility to influence somebody else's actions. In an informal status-advantage the superior's power over the inferior is not more than this possibility, while in a formal hierarchy the superordinate's power over the subordinate is officially acknowledged and supported. A member of a dyad can enjoy informal status-advantage by realizing a higher position on an individual-based dimension, or on an organization-based dimension, provided the members of the dyad belong to different organizations. (This latter presupposes that status-improvement can also be the result of simply belonging to a certain formal hierarchy — in this case effort is required to get into the hierarchy.) A member of a dyad can enjoy formal status-advantage by realizing a higher position on an organization-based dimension, provided the members of the dyad belong to the same organization.

Informal hierarchies are of undefinable size. The size of formal hierarchies is limited by the drive of those with a status advantage to exploit their power, which is usually "rolled down" over dyadic relationships. Those on a higher status often experiment with different types of organizational structure, but all of them are similar in being vertical.

My research aims at deciding whether communication supports both the formal and the informal hierarchy within the group, while trying to quantify a few possible dimensions of informal hierarchies, and comparing status in these to status in the formal hierarchy.

1.2 The communication of hierarchy

Hierarchical structuring and its communication are not a single act: group members continuously, day by day, minute to minute, communicate their respective status in hierarchies on several, verbal and non-verbal, levels, making hierarchical structures more

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2 Status-advantage can be communicated, apart from dyadically, toward the whole group, as well (e.g. at a meeting).
stable in the first place than horizontally organized structures are. To name a few examples, on non-verbal levels the arrangement of space, interpersonal space, the angle of facing, movements, communicative availability, clothing or eye-contact all add to status definition of the individual. Verbal tools are less (self-)definitive, but rather interactive, where levels are theoretically more open to negotiation between interlocutors. One heavily studied level among these is that of the temporal features of conversation: the right for *turn* (i.e. to take the floor), the length of turn, the right to assign the floor, hesitations, etc., which are studied by *conversation analysis* (CA). CA has become a very popular field in linguistics, but it has to fight the problem of dubious representativity in data collection and costliness in data processing.

Another level that is exploited in several languages of the world to communicate status-relationship is the *system of address*, which embraces every form where reference made to interlocutor(s) is linguistically coded (morphologically, syntactically and/or lexically), though languages may exploit diverse forms to express this, minimally binary, function. In some languages the system of address is less exploited, or is maybe being suppressed (e.g. Swedish or Norwegian), or fewer linguistic devices are used to code status relationships (e.g. in modern English only nominal address, and to some extent greetings, are variable from this respect, the earlier verbal and pronominal differentiation having been lost during the history of the English language). Other languages mobilize a system similar in richness to Hungarian. Just to name a few well-known examples, French, German and Russian also rely heavily on verbal address, nominal and pronominal address and greetings, all based on a binary differentiation.

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3 See Braun (1988) for a description of dozens of languages from this respects.
<table>
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<td>'vos' plural</td>
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<td>title</td>
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Table 1. Co-occurrence restrictions in the Hungarian system of address (examples; FN: first name, CN: common name, e.g. Lányok! (‘Girls!’), LN: last name)
1.3 The system of address

All the forms of the Hungarian system of address (verb forms referring to the listener(s): beszélsz (2nd person-inflections for T), beszél, tetszik beszélni (3rd person-inflections for V); possessives: kabátod, kabátja; nominal and pronominal address forms: Józsi, Kovács úr, doktor úr, te, maga, ön; and greetings: Helól!, Jó napot!, Tiszteletem!) are based on the binary distinction between, as it is often thought, informality versus formality, or familiarity versus deference, usually referred to as tu/vos usage (T/V, from the Latin pronominal differentiation).

Co-occurrence of the above forms is restricted, with norm-breaking mostly interpreted as being funny. Co-occurrences in Table 1. are to be read horizontally.

The choice between T and V is frequent and unavoidable in everyday communication, as, though nominal and pronominal address forms can be omitted in Hungarian, verb forms referring to the listener(s), or communication framing greetings¹ are hard to avoid², even when people find it awkward having to make the choice — every Hungarian has stories of this type of awkwardness. This frequent pressure for repetition points to the importance of the information carried by the system of address. (Its importance for interlocutors is also indicated by the fact that in an interview situation everybody readily remembers whether s/he is on T or V with anybody else in the group, while not necessarily remembering the other’s hair-colour or whether the other wears glasses or not.) So after all, what is this information that the speaker is forced by the rules of grammar and discourse to repeat again and again?

While most sociolinguistic and CA variables are individual-based (listener-related variables being rarely systematically operationalized in the literature³), address forms are

¹ For an interpretation of greetings as language games see Kiefer (1980).
² This is explained with the principle of the avoidance ritual by Goffman (1956), and with the principle of negative politeness by Brown and Levinson (1978). Brown and Levinson’s politeness theory would be worth a detailed application to the system of address, concentrating on the idea that T-usage (inclusion in the ‘same’ group) may threaten the listener’s negative face, while V-usage (exclusion from the ‘same’ group) may threaten his/her positive face. For a collection of avoidance strategies at the hospital ward, see Appendix 1.
³ With some exceptions, most notably Howard Giles’ accommodation theory (e.g. 1979) and Alan Bell’s audience design (1985).
necessarily dyad-based, because interlocutors are forced to define, negotiate or acknowledge their relationship: the speaker’s and interlocutor’s ‘sameness’ (coded with the use of *tu*-forms) or ‘difference’ (coded with the use of *vos*-forms). But what counts when deciding whether two individuals are the ‘same’ or ‘different’ in a world where, while human beings are basically the same, differences are traditionally heavily emphasised both intra- and interculturally? In my view it is community-specific significance attached to the *values* of gender, age, education, rank, ethnicity, popularity, expertise, authority (or health, wealth, wisdom ...), etc. that define ‘sameness’ or ‘difference’. And those can be easily quantified, based on address-form choices.

Analyses of the system of address have attempted to explain either the norm or variation in individual value orientation. Both aspects originate from a now classic article by Brown and Gilman (1960). The basic argumentation of that article is that T/V, present in numerous languages, expresses a *solidarity - power* binarity — and not an informality-formality or intimacy-deference binarity — mostly in reciprocal (mutual T or V) or non-reciprocal (superordinate uses T, subordinate uses V) address. This paper has become a commonplace in sociolinguistics (e.g. Brown and Ford 1961, Slobin et al. 1968, Ervin-Tripp 1969/1972, Bates and Benigni 1975, Paulston 1976, Lambert and Tucker 1976, Braun 1988, Fasold 1990, Mühlhäusler and Harré 1990, Dickey 1997). According to Brown and Gilman, the system of address follows the norm of the *power semantic*, if the choice between T/V is mostly influenced by the collocutors’ place in a hierarchy. Non-reciprocal addressing (superordinate using *tu*, subordinate returning *vos*) is therefore widespread, copying the asymmetrical relationship of superordination-subordination. The norm follows the *solidarity semantic* if non-reciprocal addressing is not characteristic, the choice being based on other factors.

However, the normative rules are described in mechanical models by most authors: every member of the speech community follows the same mechanical system of rules. These models, therefore, do not acknowledgemore complex *variation*. This simplistic view and application of rules of some authors is present already in data-collection. Their interview methods are exclusive and abstract, not asking about real collocutors of the interviewee, but
about ‘prototype’-collocutors defined by 2-3 dimensions (e.g. “How would you address a 45-year-old educated woman?”), see, for example, Guszkova 1981:87-90 or Fasold 1990:25-28), and therefore leads to suspiciously unanimous results. I have shown (Reményi 1994:90) that while binary (verbal) T/V data, the basis of the system of address in several languages, can be reliably collected in interviews asking about the interviewee’s every real collocutor, reliable information about nominal, pronominal address and greeting forms can be collected only by observation, as interviewees unreliably report on these.

Another group of authors (e.g. Angelusz-Tardos 1995, Terestyéni 1995), while acknowledging the influence of the value system on the system of address, finds its reference unit similarly to the previous group of authors, mistakenly, in the individual.

A function of variability is certainly the indication of identity, assigning the speaker’s place on the basis of the used variants. T/V forces dyads of speakers to another, more particular grouping, as well. Speakers have to negotiate their relationship as ‘same’ or ‘different’. The reference unit of this system of rules is not the individual, but the dyad. The decision is not based on an a priori mechanical rule, but on the basic sociological dimensions’ order of importance, which is group-specific.

1.4 Solidarity-orientation versus status-orientation

In the Hungarian adult norm non-reciprocity in verbal addressing is marginal⁴. Therefore, instead of Brown and Gilman’s terminology (power semantic vs. solidarity semantic) based

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⁴ The ratio of non-reciprocal verbal addressing in the three studied databases:
  department: 0.659% (1 out of the 152 dyads); company: 1.071% (12:1120); hospital: 3.448% (30:870)
Non-reciprocal address in Hungarian is present in greetings and in pronominal address, and is widespread in nominal address. For example, the boss may address the secretary by her first name (often adding a diminutive), e.g. Katika, while the secretary may address him by his family name + title, or title + title, e.g. Kovács úr, Szabó doktor, tanár úr. The choice between V-pronouns ön and maga is often reported to depend the same way on ‘up-talk’ vs. ‘down-talk’. Non-reciprocity also influences the yet unstudied dynamics of a dyad’s relationship (e.g. who can initiate the only possible change in verbal addressing, a switch from V to T, called pertu (from the
on the reciprocity - non-reciprocity division I introduce the terms *solidarity-orientation* and *status-orientation*. In an extremely solidarity-oriented group, no dividing dimension being acknowledged, everybody in the group would consider one another the 'same', therefore T-usage would be universal. In an extremely status-oriented group several dividing dimensions would be acknowledged, ‘acquired’ or power-related dimensions (e.g. rank, education) being the strongest ones. Therefore, T would be rare, and only possible in dyads with similar rank or education, while V would be used by all other dyads. Non-reciprocal T/V would be possible, based on difference in rank or education — corresponding to a Brown-Gilman-type power semantic.

But these extremes are infrequent. In real life, a *status-oriented group norm* is hypothesized to be reflected by a majority of *vos*-forms AND a greater influence of directly power-related variables (e.g. rank, education) over the choice between address-terms, while a *solidarity-oriented group norm* to be reflected by a majority of *tu*-forms AND an equal influence of ‘ascribed’ or non-/indirectly power-related variables (e.g. sex, age). To the extent we are able to quantify the respective strengths of these overlapping dimensions with the help of everyday verbal addressing, we will glimpse into the community’s value system.

Naturally, the use of a verbal *tu* does not mean that the speaker performs solidarity, it is rather a 'promise' of solidarity the same way as the use of *vos* across values of power-related variables is a reminder of a possible execution of power or authority on the part of the superordinate.

One aim of this paper is to test the validity of differentiation between the above two norms, and to test the hypothesis whether the distribution of verbal T/V is indeed related with the norms.

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Latin 'per tu’) in Hungarian, *Bruderschaft trinken* ‘to drink brotherhood’ in German). Children’s and interethnic norm looks different, e.g. Hungarians addressing Gypsies, or Hungarians addressing foreigners learning Hungarian.
1.5 Rigidity of the hierarchy

Formal hierarchies, i.e. organizations, can be different for *rigidity*, a concept that can be subjectively felt when one thinks of the difference between the hierarchy of a prison or army barracks on the one hand, and, say, the editorial office of an alternative journal, on the other. The other aim of this paper is to test the hypothetical relationship between hierarchical rigidity and the status- or solidarity-oriented group norm: whether more rigid hierarchies promote a status-oriented norm, and less rigid hierarchies promote a solidarity-oriented norm. *Hierarchical rigidity* has been operationalized on three bases:

1. the status-dependence of decision-making: whether and how far decision-making is anchored to formal statuses; whether and how far it is open to withdrawal to upper levels vs. how much it can be delegated down;

2. the proportion of vertical to horizontal communication in the formal hierarchy (that is, how much an individual communicates to others on the same level of the hierarchy, and how much to her/his super- and subordinates); and

3. the ease to improve one’s status within the formal hierarchy.

But the quantification of hierarchical rigidity (based on interview data) has been accomplished in only one fieldwork so far, thus no comparison is yet possible. The three available databases come from workplace hierarchies with three different levels of *perceived* hierarchical rigidity, so comparison in this paper will be based on that.
2 Results

2.1 Data collection

The data come from fieldwork (observation and interviews) about daily address usage in three Hungarian organizational settings in Budapest\(^5\) with supposedly different hierarchical rigidities:

- a hospital ward with a supposedly very rigid structure (n=47, N=870 dyads with reciprocal verbal address), ‘hospital’ from now on;
- two departments of a company with average rigidity (n=55, N=1120) (‘company’), and
- a university department with relatively low rigidity (n=18, N=152) (‘department’).\(^6\):

(In statistical analyses each workplace was regarded as a population, and not as a sample of the whole or a part of the Hungarian speech community, e.g. as a prototypical university department or hospital ward, therefore comparative generalizations are nowhere quantified.)

Fieldwork at the department contained solely interviews with every member but one of the Hungarian staff reporting their basic binary addressing usage with every other member (“do you use *tu* or *vos* with XY?”); I collected, but later rejected reported staff-to-student address-data, due to incompleteness. At the company fieldwork started with a week-long observation period where verbal, nominal, pronominal addressing and greetings were all

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\(^5\) The project originally started out in 1991 to compare the use of address (and thus hierarchical rigidity) of state-owned and private companies, but the private companies I then approached blocked the linguist’s ‘intrusion’, being secretive probably out of business reasons. I have only anecdotal data of address usage in some of them, e.g. one of the GSM-companies, where T-usage is universal except toward the head manager — a strong evidence for a status-oriented group norm.

\(^6\) At all the three workplaces I was warmly welcome to do my research, and especially in the hospital ward I found exceptional warmth and understanding. I am deeply indebted.
noted within as many dyads as possible, and a more detailed interview about all the above aspects of addressing to and from every other colleague followed. At the hospital the observation period took 25 days in a two-month period, and again verbal, nominal, pronominal addressing and greetings were all noted within all observable staff-to-staff (doctors, nurses and cleaners) and staff-to-patient dyads. (Addressing in patient-to-patient dyads was also noted, but because I originally had decided to put on a white robe to facilitate access to the staff and freer movement within the ward, this definition of my identity hindered access to patients.) The five-minute interviews with the patients were restricted to basic sociological data (age, profession, education, residence); sex, ethnicity and visible state of health were also recorded. The hour-long interviews with the staff included questions on basic sociological data, a check on the basic T/V usage with all other members of the staff, questions about colleagues’ competence and popularity, and this interview included questions to quantify hierarchical rigidity:

1. the status-dependence of decision-making, e.g. “Name a task that your superordinate can do/a decision s/he can make, but you cannot.”; “Name a task that you can do/a decision you can make, but your subordinate cannot.” I asked for both professional and organizational tasks in each case.

2. the proportion of vertical to horizontal communication in the formal hierarchy: “Who do you prefer to consult at the ward?” “And if s/he is not available?” “Do you know of any official requirements identifying your compulsory consultant (within the ward, in the hospital, regionally)?” “Have you got any colleagues in the ward/in the hospital who require a pre-arranged appointment for consultation?” “Do your colleagues ever consult you? Who?” “And your subordinates?” “Has it ever happened that your subordinates ordered you? (If yes, how often?)” “Has it ever happened that your superordinates consulted you?” “What do you think your relationship with the patients depend on?” Suggested answers were: the patient’s sex, age, education, profession, mental state, physical state (bed-ridden or not), seriousness of the

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7 My strategy at each workplace was to let my collocutors decide between T/V for us, and I reciprocated that all along. It happened a couple of times that my collocutors changed from V to T, I followed that, too.

8 see Appendix 2 for the complete questionnaire.
illness, difficulty of the diagnosis, returning patient, anything else? “Do you have a routine occasion when you talk to patients substantially? When, how long?”

3. the ease to improve one’s status within the formal hierarchy. My question asked about the routine procedure of formal status-improvement, but it was meant indirectly to check its ease or difficulty: “What do your rank-prospects depend on? A. your performance, B. the length of your employment, C. a combination of the two, D. something else, E. there is no way to get higher.”

A few questions aimed at differentiating the professional informal hierarchy from the formal hierarchy: “Who would you take your diseased relative to?” “And if s/he is not available?” I asked for names of both doctors and nurses for both questions. “Group these cards [reshuffled in front of the interviewee, with a name of all the members of the staff on each, the interviewee included] according to expertise and experience.”

Two questions intended to filter out the interviewee’s closer personal relationships in the staff: “Put separately the cards with names of your colleagues whom you discuss personal issues with, as well.”, and “Now select the ones who you talk to also out of the building.”

The first card-question, however, was open in a sense: I asked the interviewees to group all their colleagues with an aspect in mind that they find important. I wanted to figure out this way what they considered the most important dividing dimension in the ward.

Coding and analysis of interview data at the department, and of the binary T/V data from observation and the interviews at the company are ready. Coding and analysis of interview data at the hospital have been started, while coding of all address forms (verbal, nominal, pronominal address and greetings) in observed staff-to-staff interaction, and of address data obtained from interviews in the hospital is ready. Therefore binary T/V data in all the three workplaces are available for comparison — you can read the analysis below. Non-address data from the hospital interview, and addressing in staff-to-patient interaction are yet to be coded.

To start with a detailed analysis of the basic T/V data has been chosen also on the basis that these are the most certain data: most of them are double-checked, or even triple-checked:
observation data are checked against (or, in case of missing data, substituted with) interview data mostly with both parties. Dyads with clashing data (i.e. disagreement between observation and interview, or between the interviews — either occurring very rarely) were left out of the analyses.

2.2 Dyadic analysis

Two types of quantitative analyses are being carried out: the dyadic analysis aims at explaining the group norm — assuming that the group norm is experienced dyadically for the individual. (Ego either perceives others interacting, or is in interaction with somebody else.) The analysis of individual address behaviour examines individual divergence from the group norm. The group norm is first perceived as forceful "social fact" for the newcomer, something s/he has not had chance to influence. But it does not remain so: every individual is continuously forming the norm within each of their dyadic interactions; dyads negotiate variation and control norm-breaking by deciding what variation is acceptable and what is not. On the other hand, the analysis of individual variation, homogeneity or heterogeneity will show us how and which individual (or subgroup) is able to strengthen or loosen the group norm they are forming as a group, and whether individuals have the same weight in forming the norm. It will also show whether language use really has the conserving power that necessarily makes hierarchies stabler or not — as much as it can be modelled on the basis of address usage.

In this paper the dyadic analysis will be described.

The dyadic analysis seeks to decide whether each of the three workplaces follows a status-oriented or a solidarity-oriented group norm. Therefore, following the definitions (see

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9 to borrow Durkheim’s term.
above) I calculated the proportion of T-usage versus V-usage on the one hand, and quantified the influence of the measured sociological variables over the choices between T and V. Comparing the results at the three workplaces I found differences in both aspects, and some subgroups revealed some additional differences.

2.2.1 The influence of the sociological variables

The relationship of nine sociological variables with the sociolinguistic variable (T/V) was analyzed:

dependent, sociolinguistic variable:
T/V    reciprocal tu/ vos usage (dichotomous)

independent, sociological variables:
DSEX    gender difference (female-to-female, male-to-male, intersex)
SUMAGE  sum of age
DAGE    difference of age
SUMSCH  sum of schooling
DSCH    difference of schooling
SUMRANK sum of rank
DRANK  difference of rank
DSPAT  frequency of routine contact
LACQ    length of acquaintance (in the hospital ward only)

As the basis of address usage is not the individual, but the dyad, instead of individual gender, age, schooling and rank relational variables had to be used. I measured this way, for example, whether the absolute age of the dyad (SUMAGE) had an influence over the sociolinguistic variable or not: whether younger or older dyads used more T, or the variable exerted no significant influence. Differences were tested the same way: for example, whether dyads with a smaller age difference (DAGE) used more T than dyads with a considerable age difference, or this variable did not significantly discriminate. My initial hypothesis concerning these two variables was that both a bigger value for SUMAGE (i.e. a dyad with elder members) and for DAGE (a considerable age difference) would facilitate a higher

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10 A program to pair dyads, calculate values for the relational variables and take the input data for the interdyadic sociolinguistic variables was written by Csaba Győri.
probability of V-usage. I initially hypothesized the same way that a bigger difference of schooling (DSCH), a lower level of schooling of both dyad-members (SUMSCH), a bigger rank difference (DRANK) and a sex difference within the dyad (dichotomized: DSEX2) would all support a higher probability of V-usage. I had no hypothesis about the influence of SUMRANK, i.e. whether dyads with lower or with higher ranks would choose V more often.

The frequency of routine contact (DSPAT) and (at the hospital ward) the length of acquaintance (LACQ) were also tested for possible influence, hypothesizing that both the scarcity of routine contact and a shorter length of acquaintance would increase the probability of V-usage.

To compare the strength of influence independent variables exert on the dependent variable, regression was calculated. But, as the dependent variable is dichotomous, linear regression is not viable: the variable either takes up 1 or 2 as its values, but the interval between them cannot be considered, a regression line does not make sense. Rather, logistic regression was calculated, which overrules this problem. Here the same way as in linear regression, the $\beta$-coefficient indicates the influence of the variable in question. The model is built up the following way:

\[
\text{logit} (T/V) = \alpha + \beta_1 \text{DSEX2} + \beta_2 \text{SUMAGE} + \beta_3 \text{DAGE} + \beta_4 \text{SUMSCH} + \\
+ \beta_5 \text{DSCH} + \beta_6 \text{SUMRANK} + \beta_7 \text{DRANK} + \beta_8 \text{DSPAT} + \beta_9 \text{LACQ}
\]

\[
P(V) = \frac{\text{EXP}(\alpha + \beta_1 \text{DSEX2} + \beta_2 \text{SUMAGE} + \beta_3 \text{DAGE} + \beta_4 \text{SUMSCH}+...+\beta_9 \text{LACQ})}{1 + \text{EXP}(\alpha + \beta_1 \text{DSEX2} + \beta_2 \text{SUMAGE} + \beta_3 \text{DAGE} + \beta_4 \text{SUMSCH}+...+\beta_9 \text{LACQ})}
\]

that is, the probability of V-usage for a given dyad ($P(V)$) can be calculated on the basis of $\alpha$, the intercept, and $\beta_{1-9}$, the coefficients or weights calculated for each variable. The probability of T-usage for the same dyad will be: $P(T) = 1 - P(V)$, because the two probabilities always add up to 1.

In Table 2, you can see the $b$-coefficient results for the three workplaces.

11 see Menard (1995) for details.
12 Probabilities can also be understood as if we wanted to predict a new colleague's addressing behaviour for each possible dyad.
At the department power-related variables (DRANK, SUMRANK, DSCH, SUMSCH) exert no influence at all, they are not included in the model. On the other hand, all non-, or indirectly power-related variables do, with the difference of sex (DSEX) highly leading, the frequency of routine contact (DSPAT) following. The two age-variables have a small, but not negligible influence. At the two mediumly or highly rigid hierarchies directly power-related variables exert some, varying, influence, partly taking precedence over indirectly power-related variables. For the ease of comparison, see the same results in graph format (Figure 1).
Figure 1 makes it more visible that apart from the variable of absolute schooling in the hospital, the variables exert either no influence on the sociolinguistic variable (in five cases), or the increase in the value for the given variable will increase the probability of V. In other words, the following dyads will use V with a higher probability: those of different sexes, or of a higher age difference, or of two older people, or of people working farther apart, or of a higher rank difference, or of two high-rank people, or of a higher schooling difference — with a higher probability than dyads of the same sex, or of a smaller age difference, or of two younger people, or of people working closer to each other, or of a smaller rank difference, or of two low-rank people, or of a smaller schooling difference. The negative value for absolute schooling at the hospital means that higher schooling for both dyad-members will increase the probability of T.

Among the variables indirectly related to power, the difference of sex, that of age, and the frequency of routine contact have the highest influence at the company. The latter may be due to the fact that members of the two departments can scarcely meet, while at the other two organizations common working activities help people to meet fairly frequently. Absolute age increases as a function of hierarchical rigidity, meaning that the probability of V is higher at the hospital in dyads with older people than at the department.

The influence of the directly power-related variables as a function of rigidity is much more definite. While the influence of rank difference is absent at the department, it has the highest influence among the variables in the hospital. This means that while at the department T vs. V-usage is unpredictable based on the dyad’s rank-difference, at the hospital a large rank-difference guarantees V even in dyads of the same sex and age. A similar, though less sharp, increase can be found in the case of the variables of absolute rank and the difference of schooling. The influence of absolute schooling is absent at the department and the company, that is, there is no serious difference in T/V-usage between dyads with a low level of schooling for both members and those with a high level of schooling for both members. At the hospital, however, dyads with a high level of schooling for both members use T significantly more often than those with a low level of schooling.
Another way to compare the variables: *one-way analysis of variance* (ANOVA), a method to decide, in this case, whether the set of dyads on T and the set of dyads on V significantly differed along each of these variables or not, was used. They revealed roughly similar relationships among the variables: most variables had an F-ratio that showed significant differences between T- and V-groups in all three workplaces. ANOVA also revealed that some of these variables had a stronger differentiating effect than others: non-power related variables seemed to exert most of their distinguishing effect at the company, with DSEX showing an overarching one. Power-related variables had little or no distinguishing effect at the department. The distinguishing force of some variables grew at the company, and all, but DRANK and DSCH especially, jumped up high at the hospital ward.

### 2.2.2 The proportion of T to V

As the reader may remember, the difference between a status- and a solidarity-oriented group norm was defined on two bases: the effect of power-related variables, compared to that of the indirectly power-related ones, on the sociolinguistic variable T/V (see the analysis above), and the proportion of T to V. I hypothesized a majority of T-usage for a solidarity-oriented group norm, expecting to find it in the low rigidity department, and a majority of V-usage for a status-oriented group norm, expecting to find it in the hospital ward, the supposedly very rigid hierarchy.

As you can see in the *Total* column of Figure 2, following the expectations, T-usage had a majority of use at the low-rigidity department, and V-usage had a majority of V at the medium-rigidity company. But the proportion at the hospital ward did not follow the expectations: the proportion of T was not less than at the company, it even exceeded the 50% level, reaching 60%!
2.2.3 Comparison of DSEX and DRANK

As it can be seen above, the difference of sex and the difference of rank seem to be the most important dimensions on the basis of which group members at the three workplaces decide whether to be on T or V with their colleagues. First let me explain the workings of DSEX.

The right-hand side of Figure 2 indicates the proportion of T-usage by female-to-female, male-to-male and female-to-male dyads. At the department and the company T-usage follows a nice (hypothesis-fitting) pattern: it decreases as rigidity increases, in the Figure from left to right: in female-to-female dyads it is categorical at the department and over 80% at the company, followed by a smaller proportion in male-to-male dyads, and a still smaller proportion in intersex dyads. After two analyses I expected to find the same pattern in the hospital ward, with a lag, due to high rigidity. Female-to-female dyads followed the pattern, but male-to-male dyads used an invariable T at the ward, and intersex dyads used T more frequently than the same type of dyads at the company!

This unexpected outcome may be caused by a characteristic of Hungarian hospitals: the disproportion of the sexes. You may find males and females in roughly equal proportions as
physicians, but no males at inferior positions, as nurses or cleaners. (There are males in inferior positions in hospitals, e.g. orderlies or porters, but they do not belong to wards.) At this hospital ward, unfortunately from the point of this project, there were only 6 males to 41 females, and all the males were physicians. The huge majority of women and the similar ranks among the males can have caused the unexpected majority of T in the hospital-totals, as well (left of Figure 2).

![Figure 3. Dyads on T and V at the hospital ward (by rank differences)](image)

While the difference of rank (DRANK), following rigidity level, had no influence over T/V at the department, and had a medium influence at the company, it had the highest influence at the hospital ward. Figure 3 shows how the proportion of T decreases (while at the same time the proportion of V increases) as a function of rank difference. For an easier decoding of rank differences, I re-grouped dyads according to rank-groups in Figure 4. Nurse-to-nurse dyads 'lead' in using invariable T among one another, which is followed by doctor-to-doctor, cleaner-to-nurse and cleaner-to-cleaner dyads, each using T over 80% among themselves, irrespective of the other dimensions (though dyads with nurses and/or cleaners in them are invariable to sex). That the deepest dividing line is between the doctors on the one
hand, and nurses and cleaners on the other, is shown by the fact that nurse-to-doctor and cleaner-to-doctor dyads are rarely on T-terms with each other.

Figure 4. Dyads on T and V at the hospital (by rank groups)
3 Discussion

At the beginning of this paper three questions were put to be answered: (1) whether the differentiation between a status- and a solidarity-oriented group norm is valid, (2) whether the definitions of the two norms are supported by data, and (3) whether group norm and perceived rigidity level coincides.

Hopefully, the reader is convinced by now that the differentiation between status-oriented and solidarity-oriented group norms can describe real tendencies in everyday language use. I proved to have found three workplaces with very different language use patterns, as far as the system of address is concerned. In one of them, the department, T-usage had an overwhelming majority (three-quarters of all dyads used it) and colleagues decided to use V on the bases of only the difference of sex, of the frequency of routinely contacting the other, and their or their interlocutor’s age — educational level or rank did not influence their choice. This is exactly the definitional case of a solidarity-oriented group norm. At another workplace, the company, T-usage, an expression of solidarity, was in the minority (about 40%), and educational and rank differences between the members of dyads were more important in deciding between T and V than either age difference or the age of the interlocutors, but the difference of sex or spatial distance had an even stronger effect on the choice. The norm at this workplace has an in-between position on the scale between status- and solidarity-oriented group norms. The third workplace, the hospital, yielded more controversial results: T-usage was in the majority, but the difference of rank had the strongest influencing effect, preceding the difference of sex and the frequency of routine contact, and this latter was closely followed by the influence of the respective ranks of the collocutors. Therefore, this workplace cannot be simply said to follow a status-oriented group norm,
probably due to the unfortunate disproportion of a major dimension, that of the sexes, which may have skewed the results.

Similar answers can be given to question (3): the workplace that has been proved to follow a solidarity-oriented norm was originally identified as a less rigid hierarchy, so the hypothesis that less rigid hierarchies promote that norm seems to be proved in this respect. The third workplace, which was said to be a highly rigid hierarchy, only weakly supports the corresponding hypothesis that rigid hierarchies promote a status-oriented norm, as this workplace is not a clear case of a status-oriented norm. Nor is the second workplace, but its description as a hierarchy with medium rigidity nicely coincides with its medium position on the solidarity-to-status-oriented norm scale.

An additional question is whether genders relate differently to (variation in the rigidity of) hierarchy. In the dyadic analysis, women were found to be more sensitive than men to the level of hierarchical rigidity: in the less rigid hierarchy their behaviour was insensitive to status-related variables, while in the very rigid hierarchy they responded more strongly to them. Men’s behaviour also positively followed rigidity level, but less sensitively than women’s. Unfortunately, a definite answer to this question may not be found, either, on the basis of the three databases, due to the disproportion of the sexes.

I have declared, and tried to prove, that language use reflects the norm and the rigidity of the hierarchy. The mechanism seems to be that hierarchical rigidity influences the group norm, and this latter becomes quantifiable (with the help of the sociolinguistic variable) through the effect of some sociological dimensions. That language use forms the norm has also been declared, and will be proved with the analysis of individual T/V preferences and divergences from the norm, as the next step of this research. I also suspect that language use does not simply reflect hierarchical rigidity, but also influences it, but the analytical tool is yet to be found to prove it.

I believe that analysis in the status-solidarity framework may give a new impetus to the whole paradigm of quantitative sociolinguistics, which has been choking in recent years. Because, though mostly implicitly, the two main tiers of quantitative sociolinguistics use the
idea of status and solidarity as central concepts in their definition of the norm of language use, without a successful synthesis so far. Comprehensive, survey-type projects seeking to describe stratification explain speakers’ attempts towards the prestige-norm implicitly with the concept of status-orientation (to name a few classics, e.g. Labov (1966) in New York, Shuy, Wolfram and Riley (1968) in Detroit, Trudgill (1974) in Norwich, though the latter introduces the concept of covert prestige (a concept similar to solidarity-orientation) counteracting the prestige norm). On the other hand, research describing the language use of small groups or networks (e.g. Cheshire (1982) in Reading, Lesley Milroy (1987) in Belfast) believes to discover a solidarity-factor in the so called vernacular norm (Milroy 1987:208). My research is more similar to the latter type, but, as I am trying to quantify both value-orientations, it may be considered an attempt at the synthesis.
References


Appendix 1

Avoidance strategies at the hospital ward

Strategies to avoid making or expressing the choice between the basic T/V were collected at the hospital. Data show that only the higher-rank dyad-member used them.

I. Impersonal structures are more frequent (a functional equivalent of the English passive), e.g.

a. the use of verbs with impersonal reference:
   - *lehet: El lehet rakni,* 'it could be put away', meaning: 'Put it away!
   - *kell: Meg kell beszélni,* '(the point) must be discussed', meaning: 'Discuss it!’
   - *kéne/kellene: Meg kéne kérdezni,* 'it should be asked about', meaning: 'You should ask about it'
   - *sikerült: Sikerült megcsinálni?*, 'Was it successful?', meaning: 'Did you manage?’

b. self-referencing:
   - plural first person-referencing, the well-known imperial *we: Adunk neki [X gyógyszert]*? 'Are we giving [the patient] [X medicine]?', meaning: 'Are you giving [the patient] [X medicine]?'
   - inclusive plural with an imperative function: *Megcsináltjuk/csináltassuk meg XY vizsgálatot.* 'We'll have/Let's have XY examination done.'
   - singular first-person referencing: *Kérnék szépen egy X-t,* 'I'd like an X', meaning: 'Give me an X'

c. third-person referencing:
   - third person imperative: *Kapjon antibiotikumot!,* Let [the patient] get antibiotics', meaning: 'Give the patient antibiotics'; *Legyen meg a sűrgös X vizsgálat!* 'Let the urgent X examination be done!', meaning: 'Do the urgent X examination'
   - other forms with extra-dyadic reference: *A profilok mennek?* 'Are the profiles on?', meaning: 'Are you giving the patient the profiles?'
d. Nominal imperative: *Zsófi, futás lefelé!*,'Zs., race(N) down!', meaning: 'Zs., run down!', a form usually considered VERY impolite/face-threatening, but still, a form lacking second-person reference.

2. Plural T, in the presence of an audience where lower status addressees with whom the higher-status speaker is on V and T are present.

*Examples:* Dyadic interactions with address between Informants 1 and 6:

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Data show that out of the 10 observed utterances with addressee-referencing within this dyad (10 lines), there was no greeting (columns 13,15 are empty). Informant ‘1’ did not use even one verbal (col. 7), nominal (col.17-18, 20-21) or pronominal (col. 29) address towards ‘6’. ‘6’ used verbal V three times, plural T three times, and the inclusive plural with an imperative function once (all in col.8). He used nominal address six times (columns 23-24, 26-27), and the least polite V pronominal address (*maga*) once (col. 31).
Appendix 2

The questionnaire of the hospital interview

Nobody is allowed to see your answers, I will not publish results with data broken down to the level where individuals could be recognized. If you do not wish to answer any of the questions, please, feel free to refuse the answer.

Name:
Time of birth:
Highest level of education (including specialist exams), rank:
How long have you been working at this ward:

1. Name a task that your superordinate (who is named?) can do/a decision s/he can make, but you cannot:
organizational: ..................................
doctors: ..........................................
nurses: ..........................................
(for doctors: only doctors)
professional: ..................................
doctors: ..........................................
nurses: ..........................................
(for doctors: only doctors)

2. Name a task that you can do/a decision you can make, but your subordinate cannot:
organizational: ..................................
doctors: ..........................................
nurses: ..........................................
(for nurses: nurses, auxiliaries)
professional: ..................................
doctors: ..........................................
nurses: ..........................................
(for nurses: nurses, auxiliaries)

3. Who do you prefer to consult at the ward? .................................. And if s/he is not available? ......................
Do you know of any official requirements identifying your compulsory consultant (within the ward, in the hospital, regionally)? ......................
Have you got any colleagues in the ward/in the hospital who require a pre-arranged appointment for consultation? ......................
Do your colleagues ever consult you? Who? ......................
And your subordinates? ......................
Has it ever happened that your subordinates ordered you? ......................
(If yes, how often?) ......................
Has it ever happened that your superordinates consulted you? ......................

4. What do your rank-prospects depend on?
A. your performance,
B. the length of your employment,
C. a combination of the two,
5. What do you think your relationship with the patients depend on?
   a. open answer: ..........................
   b. (suggestions): patient’s sex, age, education, profession, mental state, physical state (bedridden or not), seriousness of the illness, difficulty of the diagnosis, returning patient, anything else?

Do you have a usual occasion when you talk with patients substantially? When, how long?..........................

6. If a young subordinate is introduced to her new, much older male boss, who is supposed to show his/her hand first for a handshake if the young woman is
   a. a doctor
   b. a nurse
   c. a cleaner?

7. Who would you take your diseased relative to? (doctor, nurse) ..........................
   And if s/he is not available? (doctor, nurse) ..........................

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Card questions with 46 cards, each with one member of the ward staff on it, reshuffled in front of the interviewee:

8. Group the cards with the name of your colleagues into 3 groups with an aspect in mind that you find important (name that aspect)

9. Group the cards similarly according to expertise and experience.

10. Put separately the cards with names of your colleagues with whom you discuss personal matters.

11. Now select the ones who you regularly talk to out of the building, as well.

12. Are you on T or V with each of these colleagues? How do you address them? (with the help of the cards)
   Is there anybody among them with whom you find the usual address funny or awkward?
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