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Turkic Languages

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Editorial note

The present issue of TURKIC LANGUAGES introduces the third volume of the journal. The editors, impressed by the positive response the enterprise has evoked so far, wish to express their gratitude to all contributors and readers for their interest.

The selection of contributions presented in this issue again reflects the wide range of topics that the journal is intended to encompass. The "Altaic question" is once more addressed in Roy Andrew Miller's article on the relationship of the Chuvash consonants *l* and *r* to their "Common Turkic" counterparts *š* and *z*. Mirsultan Osmanov, Li Jingwei and Jin Shangyi, all active researchers in the field of Uyghur linguistics, present an old Yarkand document written in Arabic script. Volker Rybatzki examines various words for 'steel' and 'cast iron' used in Turkic languages. Gerjan van Schaaik's article on the order of nominalizations is devoted to an intriguing problem of Turkish grammar.

The review section contains contributions by Mark Kirchner, Ahmet Kocaman, Christoph Schroeder, and Stephen A. Wurm. Two recently published reference books are discussed at length. One of them is Jaklin Kornfilt's new grammar of Turkish; the other is a general introduction to the field of Turkic linguistics, *The Turkic Languages*.

Vladimir Monastyrev's report on a major lexical project carried out in Yakutsk requires a short comment. The editorial policy of TURKIC LANGUAGES encourages contributions in English in order for the journal to reach a wide range of readers. There have, however, already been exceptions to this rule. In the present issue, we venture an interesting experiment, publishing Monastyrev's text in Yakut with an English summary.

Numerous readers of TURKIC LANGUAGES have asked us about the promised report by Dan I. Slobin on current developments in Turkish developmental psycholinguistics. The editors are pleased to announce that, instead of the brief congress report originally planned, an extensive joint article by Dan I. Slobin and Aylın Kuntay on the subject will appear in our next issue (TURKIC LANGUAGES 3/2). The paper will provide a full overview of research and research questions on Turkish child language. It will obviously be a highly useful resource, as it also includes a

complete bibliography of research in the field, from the earliest publications onward.

Lars Johanson

Turkic *š, z* :: Chuvash *l, r* revisited

Roy Andrew Miller

Pritsak has argued that Mongolian and Tungus cognates for forms where Chuvash *l, r* correspond to Turkic *š, z*, as well as for internal Turkic *š, z* :: *l, r* etymological sets, imply developments of *š, z* from earlier *l, r* + C clusters. Reinvestigating this hypothesis in the light of a set of Middle Korean heteroclitic nouns in *-l* whose obliquus case-forms have *-l.h-*, the paper suggests that Korean-Altaic cognates reveal a historical-linguistic scenario that explains how the Chuvash *l, r* :: Turkic *š, z* correspondences, as well as their parallel internal Turkic etymological sets, originally arose. The same scenario makes possible the incorporation of the Pritsak hypothesis into the classical Ramstedt-Poppe reconstruction of Altaic, where these correspondences appear as $*l_2$, $*r_2$, at the same time that it rigorously accounts for all these correspondences without recourse to historically irrelevant and essentially non-explanatory sobriquets such as "lambdacism", "rhotacism", and the like.

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The historical implications of the observed correspondences of Trk. *š* with WMo. *l* and Tg. *l* on the one hand, and of Trk. *z* with WMo. *r* and Tg. *r* on the other, have been the subject of lively speculation and dispute among students of the Altaic languages for close to a century. The discussion of course has always been complicated by the troublesome Turkological fact that alone among the Turkic languages Chuvash, like Old Bulgar before it, corresponds to *š* and *z* with its own *l* and *r*, thus seeming on the surface of the matter at least to go together with Mongolian and Tungus in a completely un-Turkic fashion.

What may now be termed the "classical Ramstedt-Poppe" doctrine was devised early in the modern history of the comparative study of the Altaic languages.[1] Most simply put, it argued that since the data revealed that four different sets of phonological correspondences were involved, it was necessary to posit four original phonological entities in the proto-language in order to account for the same, *viz.* $*l$ = Trk. *l*, WMo. *l*, Tg. *l*, Chu. *l*; $*l_2$ = *š, l, l, l*; $*r$ = *r, r, r, r*; $*r_2$ = *z, r, r, r*. Both Ramstedt and Poppe speculated at one time or another concerning the possible phonetic realization(s) of $*l_2$ and $*r_2$ in the proto-language, and in this connection also explored the possibility that the second variety of each original liquid might have been an altered, esp. palatalized, version of the other (i.e., $*l$ = [l], $*l_2$ = [l′], etc.[2] But despite this speculation, both these pioneers of Altaic comparativism consistently wrote and worked in terms of four distinctive, contrasting phonemes for this segment of the reconstructed phonology of their Altaic proto-language.

Since the Ramstedt-Poppe interpretation of the data was, in this fashion, ineluctably involved with their hypothesis of an original Altaic proto-language, it naturally had to be challenged, and if possible overthrown, when that hypothesis itself came to be subject of increasing scepticism, especially from 1962 on.[3] If, as many scholars now began to argue, there had never been an original Altaic proto-language, then of course there could by the same token also never have been four original liquid phonemes in that language whose regular reflexes might account for the observed correspondences.

The surprising phonological congruence of Chuvash with Mongolian and Tungus as against the other Turkic languages in these correspondences predisposed many Turkologists to seek a solution entirely in terms of the history of the Turkic languages alone, without reference to

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[1] Effectively the literature begins with Ramstedt (1922-1923) and Poppe (1924); since then it has grown to enormous proportions, too vast to be summarized here. Tekin (1969: 51-57) cited the major items, and still serves as a useful initial guide.

[2] Poppe (1924: 778) began this speculation on the "Klangfarbe" of $*l_2$, $*r_2$. Ramstedt (1957.1: 103-105) attempted further to refine the analysis with reference to supposedly parallel developments in other language groups.

[3] On this dating see Miller (1996a: 90-96).

other segments of the Altaic linguistic world. Naturally enough, this approach went hand-in-hand with the increasingly strident denial of the existence of any earlier Altaic proto-language, and out of it in turn grew hypotheses that eventually sought (and mostly still seek) to explain all these resemblances among these languages as resulting from multifarious borrowings in one direction or another, back and forth against the vast expanse of Greater Eurasia.

It was in this vein, for example, that Sir Gerard Clauson set forth his magisterial summation of the history of the Turkic languages: "... a unitary Turkish [sic!] language, which was not genetically connected with any other language known to us, and specifically not connected genetically with the Mongolian and Tungus languages ... split into two main branches, 'standard Turkish' and '*l / r* Turkish', not later than, and perhaps before, the beginning of the Christian era ... Turkish loan-words in Mongolian and Hungarian ... were almost certainly borrowed from an *l / r* language, by the Mongols probably in the fifth or sixth centuries, and by the Hungarians probably in the ninth ..." (EDT, 1972: v). Sir Gerard acknowledged that "the only surviving *l / r* language, Chuvash ... throws light on the phonetic structure of individual standard Turkish words", but clearly he felt himself under no necessity to explain how or why this "split into two main branches" originally took place.

More recent statements, all essentially growing out of Sir Gerard's position in this and kindred matters, have displayed a surprisingly acrimonious escalation of rhetoric that contrasts strikingly with his placid prose. We are now told in no uncertain terms that the correspondence of Chu. *l* and *r* to Trk. *š, z* is a "phenomenon ... connected with the internal dialectology of Pre-Proto-Turkic, [so that] it is futile to search for traces of it in other genetic entities", moreover, that "[b]ehind the quasi-scientific accuracy of such assertions [i.e., that these Chu.-Trk. correspondences were only part of a larger Altaic phenomenon that also left significant traces in Korean and Japanese] there lies a fundamental misunderstanding of Turkic diachronic phonology", while reconstructions that *à la* Ramstedt-Poppe incorporate the historical implications of a proto-language implicit in their $*l_2$, $*r_2$ analysis are no more than "phantom reconstructions".[4]

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[4] Janhunen (1996: 240-241 with notes 748-751). His chief authority for this version of "Turkic diachronic phonology" is Ščerbak (1970: 83-88), who postulated

The strident tone of this and several similar passages that might easily be cited in this context is best understood as illustrating the well-known adage that the best defense is a strong offense. They are especially aimed at attempts to identify both $š$ and l reflexes for $*l_2$ in early Korean written materials, as well as documentation of s for $*l_2$ and r / t in regular phonological distribution for $*r_2$ in Japanese.[5] Naturally enough, if any of these Japanese and Korean data, unknown to Ramstedt and Poppe, were to be found to be valid, it would be necessary to look once more at their original formulation and even possibly restoring it to the place it once occupied in the history of Altaic studies. But that would also mean resurrecting the idea of an Altaic proto-language. Better, therefore, simply to label all such attempts at discovering new data and possibly verifying the Ramstedt-Poppe hypothesis as "fundamental misunderstandings ..., phantom reconstructions, ... [and] quasi-scientific" at the outset, and thus spare the entire field the tedious necessity of perhaps once more restudying all these problems *ab initio*. How much easier to denigrate attempts to locate documentary evidence in languages yet insufficiently studied as "an absurdity" (Janhunen & Kho 1982), than to undertake to study, and to refute if possible, the evidence.

Nevertheless, and despite (or perhaps, because of?) this new discouraging level of rhetoric, some few have persisted in attempts to demonstrate the existence of Korean and Japanese linguistic materials that appear to document the fundamental soundness of the original Ramstedt-Poppe four-liquid hypothesis, and together with this the essential historicity of the now much-despised proto-Altaic linguistic unity.[6] The

a "phonemic split" [sic!] of $*s > s$ / $z > r$ and $*š > š$ but $*z > l$ conditioned by occurrence either following a two-syllable sequence or an original long vowel. Tekin (1969: 55-56) had already pointed out the contradictions in Ščerbak's scenario on the basis of an earlier (1966) paper along the same lines which he cites (1969: 55 note 22).

[5] Miller (1979a; 1979b; 1994: 93-97). Most recently Starostin (1997: 326) has accepted the $*l_2$ :: OJ -s- correspondence, but still not that for $*r_2$ :: r / t.

[6] Interestingly enough, even Nauta (1985: 124), who is far from accepting the Ramstedt-Poppe version of Altaic, finds it necessary to work in terms of four separate liquids for "Proto-Turkish". Only his symbols differ from the "classical" formulation.

present contribution is one such attempt, focusing specifically upon what Korean materials easily available but not yet sufficiently explored in the linguistic literature may have to tell us about what may or may not be, as alleged, "fundamental misunderstandings ..., phantom reconstructions, ... quasi-scientific ... [and] an absurdity."

These Korean materials center upon a small inventory of Middle Korean nouns that elsewhere, following K. H. Menges,[7] we have termed "heteroclitics", because of their distinctive stem morphology *vis-à-vis* the case-suffixes.[8] Of course, this term is not to be understood as indicating that these MK nouns precisely replicate the morphology of the Indo-European heteroclitics; nevertheless, these nouns do have certain parallels with the I.-E. forms after which we have named them, and most important of all, the use of the term may help to emphasize that these Korean nouns, quite like the true I.-E. heteroclitics, conceal within their distinctive morphological formations a considerable array of significant historical information.[9]

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[7] Menges (1984: 243) first pointed out the importance of these MK nouns ("the question arises whether or not an ancient heteroclisis might be present in ... these stems"); and earlier he had countered the suggestion of Avrorin (1959: 132-34) that the formations of certain Tungus nouns might be explained by suppletion with the suggestion that the phenomenon involved actually was a type of heteroclisis, and that all these cases "verlangen eine eingehende Untersuchung" (1968: 184). Here, among other goals, we attempt to exploit the obvious connection existing between Menges' insights into Tungus on the one hand and Korean on the other. Apart from his work the problem of possible heteroclisis in Altaic has scarcely been noted. Recently Tenišev (1997: 724 note 69) reports that the (forthcoming) Moscow comparative Altaic dictionary will use the rubric "heteroclitic" for noun-sets with Trk. *-r / z* (i.e., **-r₂*) corresponding to Tungus *-n* (cf. **ülkä-r* :: **pegule-n* 'Pleiades'). But this phenomenon hardly deserves the denomination, and at any rate has nothing to do with the forms treated in the present contribution.

[8] See the sample of typical case-forms in Miller (1996b: 166). A full account of the forms and complete case paradigms are in Yi Sungnyŏng (1961: 134-137, 145).

[9] For the Indo-European nominal heteroclisis, see Burrow (1955: 225-228), and Szemerényi (1990⁴: 183). The fact that the I.-E. heteroclitics are *r / n* stems, i.e., that the stem with *r* in nominative and accusative alters to *n* in the other cases, no

Common to all the MK heteroclitics is a stem-suffixed -.*h*- which is absent from the isolation and / or citation forms of these nouns, but appears before case-suffixes in initial vowels (MK :*tol* 'stone', but :*tol.h.i* (nom.), :*tol.h.ăi* (gen.), :*tol.h.ai* (loc.), :*tol.h.ăl* (acc.), :*tol.h.ălo* (instr.), :*tol.k'wa (< *-h.kwa)* (com.)). The historical origin of this -.*h*- < *-*g*- is documented by a variety of evidence. On the one hand there are a number of these MK nouns with isolation forms in final open vowels that are transparently loans from Chinese; here the heteroclitic -.*h*- may easily be identified as originating in a final MChin. *-*g* otherwise attested in the form that was borrowed into Korean (MK ·*ca.h*- 'a foot measure' < MChin. *c'̯äg* id.; MK *tyŏ.h*- (NK *čŏ*) 'flute, fife, whistle' < MChin. *d'̯ieg* id.).[10] On the other hand there are also historically significant borrowed forms in which this -.*h*- following another consonant plainly originates in an earlier *-*g*- (MK ·*năl.h*- 'cutting edge, blade', Ma. *narga* 'harrow, rake', cf. Trk. *taryaq* 'a comb').

But far and away the greater number of these MK heteroclitics belong to a clearly marked subset within this category: They show no hint of being loanwords from any other language; and they end in -.*h*-.[11]

doubt lies behind the highly dubious terminology now proposed in Moscow (see note 7 *supra*). But the Altaic situation does have one significant similarity with Indo-European. Just as these *r / n* stems were still productive in Hittite but elsewhere only remnant archaisms, so do we find them well represented (though not productive) in MK but only remnant archaisms in Tungus.

[10]   These MChin. reconstructions are slight revisions of the usual Karlgren versions, on the basis of evidence that his *-*k* finals were actually [G] in the variety of Chinese behind the earliest loans into Korean. This was true of Turkic as well, where the two forms cited also appear borrowed as Trk. *čïy* (EDT 404b) and Trk. *tïy* (Zieme 1991: 245). But at our present stage of understanding it is difficult to explain the Turkic vocalization of either of these loans.

[11]   Inventories of these forms that purport to be complete appear in Kim Minsu (1952) (but many of his citations are incorrect and his data must be used with extreme caution), Nam (1957 rpt. 1962), Kim Hyŏngkyu (1963), Martin (1992: 109). Only Kim Hyŏngkyu hints at any value of these forms for the study of the relationship of Korean to other languages, but his remarks in this connection lead nowhere. Starostin (1991) treats a small sample of the MK heteroclitics (12 out of ± 80), but does not study or even identify the group as a whole, nor is he con-

Moreover, a significant number of these forms, far from appearing to be loanwords into Korean from any proximate other languages, may readily be identified as having entirely plausible Altaic, and in particular, Turkic, etymologies:

1. STONE. Trk. *tāš* (EDT 557a), Chu. *čul, čol*, Ev., Neg. Oroč., Ud., Olč., Orok., Nan. *ǰolo*, Lam. *ǰol*, MK *:tol.h-* (APP no. 68, p. 277; pp. 37-38).[12]

2. EGG. Trk. *āš* 'food (in a broad sense)' (EDT 256b), WMo. *alisun* 'peel, rind (of fruit); chaff, husks', 'des pois fauchés', MK ·*al.h-* 'egg; a lump, a piece (of something)', NK 'egg; a grain, a berry; counter for chestnuts, beans; any small round object, esp. edible, e.g., a grape' (SKE 6-7; APP no. 228, p. 285; Nam 346b, Yu 526a, SEM 1088b).

3. SKY, HEAVEN. Trk. *quyāš* 'the sun' (EDT 679a), *küneš* 'sun; sunshine, sunny side of a mounrain' (EDT 734a), Chu. *χŏvel* 'sun', Old Koryŏ †*hannal* (Sasse no. 1, p. 99), MK *ha·năl*, NK *hanŭl* 'the sky, the heavens' (Nam 467a, SEM 1781a) (APP no 78, p. 183, reconstructing pAlt. **guñal$_2$*; but the promised Altaic entry no. 206 is missing from p. 284).

4. COMPANION. Trk. *tūš* 'equal, equivalent; opposed to, facing' (EDT 550a), Chu. *tŏl* 'companion, equal', MK ·*tăl.h-*, NK *tŭl* '(acting as) a group, all together; suffix for plural nouns' (Nam 140b, SEM 533b) (APP no. 424, p. 292, **dŭl$_2$*, but separating this etymon from that behind MK *:tul.h-*, NK *tul* '2', which may go instead with **r$_2$* words, although the Tungus evidence is neatly ambiguous (Ev. *ǰūr* but Neg. *ǰūl* '2', TMS 1.276a-277b).

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sistent in how he cites their stems, randomly writing, e.g., *náráh* 'country' but *tŏr(h)* 'stone' (1991: 257, 254).

[12] The documentation in these etymological summaries does not aim to be complete, much less exhaustive; many of these etyma have been in the literature for decades. In the main only sources that may otherwise be overlooked or that bear in a particular manner on moot points are cited. In the etymology for STONE, the problems of the vocalism of the proto-form are paramount, and are discussed in Miller (1985, 1986). Perhaps overlooking the details treated there led Janhunen (1996: 240) to castigate this too as a "phantom reconstruction".

5. TEN. Trk. *-miš, -miš* in *altmïš* '60', *yätmiš* '70' (EDT 130b ['with the unusual suffix *-mïš*'],891b), Chu. *măl, měl* in *utmăl, śitměl* id; Old Koryŏ †*sumul* '20' (Sasse no. 29, p. 101), MK ·*sŭ·mŭl.h-*, NK *sŭmul* '20' (Nam 318a, SEM 1025a).

6. COOKED MEAT. Trk. *sïš* 'a spit, skewer, fork (from which cooked food is eaten)' (EDT 856b), WMo. *silbi* 'shin', Ev. *sila-* 'to grill, brown on a spit', *silawun* 'a spit', *sila, silan* 'meat (grilled on a spit)', *sïlamačïn* 'meat from the upper portions of the bear's leg', Nan. *sïlō* 'sašlyk (meat, fish on a spit)', Ma. *šolo-* 'to roast, bake, grill' (TMS 2.62a-b), MK ·*săl.h-* 'flesh; meat on the bones; skin; muscles', NK *sal* 'flesh; meat (of fruits, nuts; skin' (Nam 290b, SEM 895b).

7. COOKED GREENS. Trk. *yavïš.gŭ* 'foliage; a kind of fruit', *yabaš, yavaš* 'delicate, tender' (EDT 881b, 880b), MK *nă'măl*, NK *namul* 'greens, edible herbs; vegetables (for food)' (Yu 124b, Nam 92b) (APP no. 426, p. 292).

8. POOL. Trk. *toš* "seems to mean something like 'pool'" (EDT 557b-556a), MK ·*tol.h-* (Nam 159a), :*tol.h-* (Yu 229a) 'a drain, gutter' (translated by NK *tolang* 'a ditch', SEM 463ab), Ev. *tōlγa* 'deep place at the shore; sand bar (at the steep shore of a river)', *tōlγān* 'eddy, whirlpool', Lam. *tōlγu* 'creek, backwater' (TMS 2.194b).[13]

These MK data, with their clear and unambiguous notations of *-l.h-* in forms that may well be suspected of being cognate with Trk. forms in *-š* (and so also for other forms also in MK *-l.h-* that appear to be cognate with Trk. *z* forms), immediately cannot but put us in mind of the Pritsak hypothesis (1964). This, in general terms, was the suggestion that at some (presumably early) stage in the history of the Altaic languages, the phonemes that later were to be represented as the Trk. *š* and *z* members of the Chu. *l* = WMo. *l* = Tg. *l* and Chu. *r* = WMo. *r* = Tg. *r* sets of correspondences were actually the result of crasis within Turkic (but not in Chuvash) of combinations of original *l* and *r* + C.

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[13] Problems of meaning and especially neglect of the Chinese glosses to the MK sources have obscured this etymology, which is not represented in the existing literature. By POOL we mean either a man-made arrangement that holds or stores a small amount of water, or some natural configuration of the landscape that has the same effect.

If we follow the historical implications of this hypothesis to their logical conclusion, we will immediately see how important these MK heteroclitics in -*l.h*- may potentially be for a thoroughgoing and consistent historical explanation of the entire much disputed and thoroughly vexing problem of the bulk of these correspondences. The historical-phonological scenarios involved in these sets have variously been termed "lambdaism", "rhotacism", "sigmatism", and "zetacism";[14] but the differences in their terminological designations prove upon inspection only to be reflections of one or the other of two *a priori* conclusions concerning the actual course of phonological events.

For those who have assumed for one reason or another that the answer to all this must somehow be located in Turkic materials and Turkic materials alone, it has been sufficient to allege that *š* and *z* spontaneously and sporadically somehow changed to Chuvash *l* and *r*; for such special pleaders the Mongolian and Tungus evidence was trivial. Those who assumed a larger (and older) Altaic linguistic unity, by more or less the same token, had to be content to allege that their $*l_2$ and $*r_2$ somehow changed to Turkic (but not Chuvash) *š* and *z*; in this case the alleged change was not, as in the former scenario, sporadic, but it was equally spontaneous, in the sense that the *rationale* for any variety of *l* and *r* suddenly to appear as *š* and *z* was, at best, always extremely tenuous.

It is important to remember that the Pritsak hypothesis was evolved entirely independently of the Korean data here placed under contribution. It is particularly because of this that they have considerable potential for substantiating that hypothesis, at the same time that that hypothesis may help to show their critical role in the eventual elucidation of this vital segment of the Altaic phonology.

This is because with the data relating to the MK heteroclitic nouns in hand we may for the first time document, and not simply hypothesize, a stage in the history of Altaic at which what must have been the direct ancestors of later Turkic *š* and *z* plainly consisted of combinations of *l* (and by implication *r* as well) plus an immediately following consonant. This consonant was identical with the *-*g*- that underlies the MK -.*h*- that marks the case-suffix morphology of these nouns; and most significant of all, we know as well from the Korean data that this *-*g*- was

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[14] Tekin (1969: 51-57) is a convenient introduction to the vast literature that treats these diverse "isms".

absent in a certain few morpho-syntactic contexts, but present in most others—notably absent in absolute, citation-forms, and in certain vocatives, but always present in the other syntactic contexts involved with case suffixes.

This in turn means that in seeking a historical explanation for this body of data we may finally introduce into the materials at hand documented instances that fully substantiate the Pritsak hypothesis, because they show specific inherited forms illustrating the *l* and *r* phonemes in question both in isolation and in combination with an immediately following consonant: The former situation, in other words, making it possible to account for the Chuvash *l* and *r* forms, the latter, in effect, and accepting Pritsak's hypothesis, accounting for general Turkic *š* and *z*.

In other words, we propose that it was forms parallel to the MK isolation forms *tol* 'stone', *hanăl* 'sky',[15] etc., that were directly inherited by, and that are historically reflected in, Chu. *čul, čol, χŏvel*, etc.; but it was forms parallel to the obliquus MK -*.h*- formations, i.e., *tol.h-*, *hanăl.h-*, etc., that were inherited by, and that are historically reflected in, Trk. *tāš, quyāš, küñeš*. This is because *-*l*.g*- not only in Korean > -*l*.h*-, but also in Turkic generally, and in terms of Pritsak's formulation and hypothesis, it also > *š*, i.e., *$*l$+C > *š* where *C = *g*; and so also for *z* < *$*r$+C.

Continuing along these same lines of logical extension, but, it should be noticed, always basing the essential outline of our putative historical-linguistic scenarios on the documented data of the Korean materials, we may proceed to sketch the following overall account of "what happened in history" with respect to the developments within the larger Altaic horizon, prior to the early but nevertheless still demonstrably secondary stage in the history of these languages revealed by the "Trk. = Chu. = Mo. = Tg." correspondences with which we are familiar from the handbooks:

At the earliest stage in the history of the Altaic languages that we may at present recover, their phonological inventory embraced two contrasting liquids, *$*l$ and *$*r$, neither of which was ever found in word-initial

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[15] MK was a language with significant (phonemic) elements of tone, written in our transcription with · and :. But these suprasegmentals prove to have no historical connection with our problem, and so from this point on we simplify our transcription by omitting these indications in most citations.

position. Representative examples of words with *-l* from this earliest stage include *diōl* 'stone', and *guñal* 'sky', along with many others. Forms of this type were inherited directly and with their *Auslaut* *-l* intact into later stages of Altaic in a wide geographic range, yielding, e.g., attested Chu. *čul, čol* 'stone' and *χŏvel* 'sky', as well as Old Koryŏ †*tol* id. and †*hannal* id., together with many other *-l* forms in many other languages. But, in one portion of this earliest stage of the Altaic linguistic unity, a limited number of the *-l* words acquired an early obliquus formation in *-g-*, and were inherited into certain geographically restricted portions of the Altaic *Sprachraum* with this secondary suffix already firmly fixed in place. In overall terms, this happened at the two geographical extremes of the Altaic areal, in Turkic at the one extreme and in the language underlying our Middle Korean written records at the other. Accordingly we may wish to postulate a single phenomenon of obliquus suffixation, the representative of which subsequently bifurcated into a remote-eastern and a remote-western representative; or we may perhaps equally well postulate two simultaneous such developments at either extreme of the *Sprachraum*, though the latter seems somewhat less likely.

At any rate, the *-l* forms with their *-g-* in place were then independently inherited into Turkic, where these *-l-*+C combinations regularly yielded *-š* in accordance with Pritsak's hypothesis—and as a consequence at the same time they contrasted with the otherwise and separately inherited *-g-*-less forms (*diōl* > *čul, čol*, *diōl.g* > *tāš*. etc.), eventually also to yield the "*š* = *l*" correspondence of our handbooks and the raw materials upon which have subsequently been erected elaborate speculative scenarios of "lambdacism", "sigmatism", and the like.

Mutatis mutandis, precisely the same course of linguistic events transpired in the case of original *-r*. Original *-r* forms were inherited intact in Chuvash, Mongol and Tungus (and also in Korean, though there, as in Japanese of course, the *l* / *r* distinction itself was early levelled out), but certain obliquus formations in *-r.g-* regularly yielded Trk. *z* (and MK *-l.h-*), as we shall document in more detail later. This *l* / *r* levelling produced different results in Japanese and Korean, even though in each it yielded only a single phoneme. In Japanese what we write as /r/ is mostly [r] but in many ideolects has sporadic [l]-like allophones. In Korean the single phoneme that we write as /l/ has clear-cut allophones as [r] in *Inlaut* and [l] in *Auslaut*: "Im Koreanischen ... ist *l* ein positives und *r* ein negatives aphonematisches Grenzsignal" (Trubetzkoy 1962[3]:

257). This is the situation in NK and presumably also in MK as well, where we must remember that what we write as /l/ may historically, as well as phonologically, be either *r* or *l*.

For the sake of clarifying this initial statement, certain details have been intentionally left unmentioned thus far, particularly with regard to the Korean and Japanese developments of these original *l* and *r* phonemes and their combinations; and while not all these items may be fully inventoried here, a few of the more striking of them are worth noting at this point.

Most important to note and understand is the Korean situation, especially with respect to the historical-linguistic position of the Old Korean and other early text-evidence that shows without question the existence of unambiguous *š*-reflexes for a number of $*l_2$ words, all the more significant because in the texts these are clearly recorded with a Chinese phonogram that must be *š* or *s* but cannot possibly be *l* or *r*.[16] (These are, it hardly need be repeated, the same texts whose discovery has been dubbed "an absurdity", etc., by Janhunen, see *supra*.) Thanks to these texts, we know that certain Old Korean languages (of which there were at least three) had *š* for $*l_2$, exactly like Turkic and Japanese—or to rephrase the data in terms of the present paper, these languages all inherited the words in question in the $*-l+g-$ obliquus shape, unlike Chuvash, Mongolian and Tungus, which inherited the rectus shape, without the $*-g-$. From this, it must now be concluded that MK was not a linear descendant from any of these Old Korean languages, as is conventionally alleged in Korean academic circles today, but instead represents a slightly divergent inheritance from the original Altaic linguistic unity. It resembled the Old Korean languages in that it too inherited the obliquus formations, but unlike them, it did not undergo the $*-l + g- > *t^š > š$ series of changes that we shall attempt to elucidate below.

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[16] Despite the plain evidence of the phonogram texts, the majority of modern Korean scholars persist in "reading" the *š*, *s* phonogram as *l*, *r*, and most western students follow them unwittingly in this foible (e.g. Sasse 1989). But even such an artificial and anachronistic approach is better than that of Itabashi (1996), who argues that the same phonogram was sometimes used to write *r*, *l*, but sometimes also *š*, *s*, and moreover that it is possible for him now to determine by introspection which of these sounds was intended in any specific writing.

Specifically, MK and NK in its turn were not, as frequently assumed, direct descendants of the Old Korean language of the Silla kingdom.[17] This is not to deny that certain elements and features were common both to the Old Silla language and to the later MK and NK languages and may even now be identified as such. But in this all-important matter of their reflexes for the inherited Altaic $*l_2$, $*r_2$ phonemes, Old Silla clearly drew upon one specific course of inheritance, a course analogous to that drawn upon by Turkic except for Chuvash at the other geographical extreme of Eurasia, while MK and following closely upon it NK drew instead upon another course of Altaic inheritance, parallel to that exploited by Chuvash, Mongolian and Tungus.

If at first this seems only to complicate the early linguistic history of the peninsula, we should reflect that one of the most important potential powers of historical linguistics lies in revealing precisely this variety of convolute developments that other varieties of historiography all too easily fail to notice. The conventional statements in the handbooks concerning the direct link between Silla and MK have simply resulted from a genial confusion of political and military history with historical linguistics. The Silla state and its armies unified the Korean peninsula, to be sure, but the linguistic evidence points toward a rather less simplistic course of events than the political and military narrations suggest. Most importantly, we should reflect upon our great good luck as linguists that actually this was not so; otherwise we would not be so well served as we are by the simultaneous existence of both *š* and *l* materials from this same narrow Korean area. If Silla had actually been able to impose its language in every detail upon the nation that it dominated after AD 668, our grasp of the Altaic connections of Korean would be far less secure than it is today.[18]

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[17] The discussion of this important point in Miller (1996a: 70-71) makes it no longer necessary to explain the MK and NK survivals of *l* / *r* forms as having resulted from a "re-Altaicization" of the peninsula. At best this was always the weakest link in our chain of argument, and we are happy to be able finally to jettison it.

[18] The Old Koryŏ language, for which we have a Chinese-Koryŏ bilingual glossary that dates from ca. 1103 or shortly thereafter (Miller 1998a: 34), is also informative with respect to pre-MK developments of $*l_2$, $*r_2$. The most important of these data are studied in Miller (1996b); in addition, the glossary has 'stone' as

Despite the enormous volume of the existing literature that continues to surround these problems of Altaic $*l_2$, $*r_2$, one searches it in vain for attempts at concrete suggestions that might explain the phonetic details of the changes postulated by advocates of either (or any) persuasion: It has been felt sufficient to take a position on the issues involved (i.e. either assume *l, r* to have been original in one form or another, or else *š, z*), and then to state firmly and frequently that either *l, r* > *š, z*, or that *š, z* > *l, r*, without ever hinting at a plausible phonetic, much less a phonemic, mechanism or scenario that might possibly be supposed to have triggered these changes. To be sure, Indo-Europeanists have not set us a particularly good example in this connection. Every handbook will tell us that I.-E. $*k^w$ yielded labials before Gk. α, o, and κ, γ, χ before or after υ, but τ before ε, ι (i.e. *quis :: τίς*); but all the handbooks are strangely silent about how and why this original labial velar appears as a Greek dental in these specific phonemic contexts. The rule is easy to remember; but one cannot help asking "why?" The Indo-Europeanists do not seem to find this a problem; but our field is not so well worked over or so well thought of that we may be afforded this luxury of silence.

Questions in considerable number naturally present themselves concerning the genesis of the Turkic reflexes *š* and *z* that we here suggest somehow grew out of earlier $*l+g$ and $*r+g$ combinations; and equally naturally, if unfortunately, not all of these can be answered at the present time. But at the outset of any search for such answers, surely attention must focus upon the structural imbalance posed within general Turkic (and Turkish) phonology by the simultaneous coexistence and contrast of *š* and *z*, this strangely mismatched pair of phonemes that differ one from the other both in method of articulation and in voice.

From the contrasts elsewhere in the system and in terms of general, i.e. usual phonological canons, we should expect either a set *š :: ž* or a set *s :: z* with the single contrast-factor of voice, or else sets of the order *š :: s* or *ž :: z*, with the single contrast-factor of method of articulation. Instead, the set that we do have, *š :: z*, is obviously skewed; and we know that such skewing, or structural imbalance, in a given phonological system or structure is frequently a valid clue to historical changes in

†*tol*, and 'two' as †*tuβul* (Sasse nos. 57, 20), and so independently already points in the direction of the later MK and NK -*l*- forms.

the course of the history of the language. This in turn means that we will wish at the outset to investigate whether it may be possible to establish something of the history of the specific historical-linguistic changes responsible for this observed structural anomaly, and in particular to test whether it may be possible to correlate certain, even if not all, of this structural skewing with the documented data from MK that we have here attempted to correlate with the history of Turkic forms displaying these anomalies.

Initial attention in this connection probably should be directed simultaneously toward two actually disparate sets of data: (1) The (again!) imbalanced distribution of the voiceless and voiced Turkic affricates *č* and *ǰ vis-à-vis* the word-structure, *č* occurring initial and medial, but *ǰ* never initial; (2) the observed and well-documented development of Tungus (and by implication also Altaic) medial consonant clusters of *r, l* + *k, g* into affricates of the order of *č* and *ǰ* in Manchu. Keeping in mind always that our writings of *č* and *ǰ* are in part determined by graphic convenience (although to be sure they do have the incidental merit of symbolizing the unitary phonological, i.e. phonemic value of each), and that at least in non-phonemic, purely phonetic terms each is to be understood as a writing for a sequence of stop + sibilant release, of the order $/č/ = [t^š]$, $/ǰ/ = [d^ž]$, we may well be on the way toward making a start at bringing the historical-linguistic events involved into some variety of order.

In general terms, the pattern for these relevant developments in Manchu seems clear enough: Poppe (1960: 85-88) cites etymologies in support of Altaic and Tg. $*l_i k >$ Ma. -*č*-, but $*r_i g >$ Ma. -*ǰ*-. But within these etymologies we actually find *r* varying sporadically with *l*, and *k* with *g*, so that Poppe, honest as always, did not hesitate to admit that we have here to deal with "eine schwer zu erklärende Doppelvertretung". This was in effect another way of saying that what we find in the forms in question is best described in general, and not overly specific terms, as an attested affricate, voiced or voiceless, resulting from crasis of either of the two liquids apparently available at the earliest stages of the language, with a velar stop, which again may have been voiced or voiceless.

It should not be difficult to see how this in turn correlates with the structural imbalance of the Turkic *š* and *z*, at the same time that it partially also reflects the structural assymetry of Turkic *č* and *ǰ*. In the case of an original *l*, close juncture with an immediately following *g*—such

as is documented in the MK heteroclitic nouns in *-l.h-* —at some fairly early point in the history of the Turkic languages appears to have generated a voicless affricate [$t^š$], in a phonotactic process precisely parallel to that which we may document between Altaic-Tungus and Manchu. Similarly, and again in parallel with similar developments in Manchu, early combinations of original *r with *g immediately following in close-juncture generated the voiced affricate [$d^ž$]. Subsequently each of these postulated pre-Turkic affricates was simplified both phonetically and phonologically. The change that both now underwent, which we may term "asibilisation", reduced the articulary force of the stop constituent of each in successive stages until it ended in zero, and then in its place brought the original *š* and *z* off-glides into roles of full phonemic prominence. With this the evolution of the Turkic *š* reflex for what in the classic Ramstedt-Poppe reconstruction of Altaic historical phonology is *l_2—i.e. our *-l+g-* documented in MK *-l.h-* —was complete; and for the first time not only do we have a scenario that goes well along the way of explaining where this *š* comes from, and how it arrived where it is now found within the Turkic phonological structure, but also, and as part of that explanation, tells us what we believe Ramstedt and Poppe were actually recording when they wrote their *l_2—not a symbol for a given, specific phoneme to be identified as such at any given time in the pre-history of Turkic or even in the proto-history of Altaic, but rather a symbol for a complex but entirely rational sequence of historical-phonological events. The formulation here suggested by no means seeks to overthrow the Ramstedt-Poppe reconstruction in this particular: Instead, it seeks to build upon and if possible to enhance the explanatory powers of their work by introducing into the discussion data that they did not have available.

Similarly, for *$r+g$ > [$d^ž$]. Here the originally secondary sibilant-release element of the affricate further underwent another easily explainable change in pronunciation either before or after (most likely after) the articulatory reduction of the [d] to zero, and became [z] for the reason that nowhere else in the Turkic system did a [ž] exist, and to have introduced it at this point would apparently have done too great violence to the structural imperatives of the language. (Such constraints were, needless to say, not operative in the case of [š] which was already well entrenched into the phonological matrix.) And so here too we now have a single scenario, based on observed and documented parallels in cognate languages, explaining what was involved in the actual history of the

Ramstedt-Poppe $*r_2$. As with $*l_2$, so also $*r_2$ is no longer necessarily a phonological *deus ex machina*: Both may be demonstrated to be symbols for completely routine and understandable phonetic change that eventually expanded from the level of surface realizations [t�̌], [dˇ] to that of significant phonological entities /š/, /z/.

One question that will surely be asked, and one indeed that should be asked, is, to put it in the most simplistic terms possible, where did the [t] and [d] stops, about which these affricate clusters first centered, come from? These dental stops (or, perhaps, phonemically, this dental stop) elsewhere too are (is) no stranger to the $*r_2$ scene. In an important if small set of morphologically anomalous MK verbs, most of which may be demonstrated to originate etymologically in Altaic roots in $*r_2$, we find two phonologically conditioned reflexes for $*r_2$, one the dental stop /t/ (realized as [d]), the other the unique Korean single-liquid /l/ (realized as [r]). And equally striking, Old Japanese preserves substantial etymological evidence demonstrating that there too we must reckon with the same two reflexes of $*r_2$; there we find /t/ following an original long vowel but /r/ following an original short vowel. These data show that, at least for $*r_2$, Turkic is not the only Altaic area in which we must reckon with this curious phenomenon of a dental stop reflex; they also show that the question of where this reflex (or, these reflexes) came from is no trivial matter.

At the moment no simple answer is forthcoming, and only one tentative suggestion that may eventually prove to point in the direction of future investigation may be made. Menges has several times drawn attention to a tendency toward special developments on the part of liquids in certain Tungus languages, notably Udi, when occurring in close-juncture with a following consonant, stressing the fact that when this following consonant is an occlusive, the preceding *l* and *r* themselves frequently shift to an occlusive (Menges 1968: 184). He has also described the interpolation of what he has called a "*Gleitlaut d*" into Tungus liquid and nasal groups with *r* as their second component, a phenomenon whose parallel in certain Turkmen dialects as well may be significant (Menges 1968: 100). Relevant here also is the "*vibrans d´, t´*" of some Evenki dialects to which he has further called attention, in its role as a phonetic, if not phonemic, interpolation-replacement for otherwise binary liquid and nasal groups (Menges 1968: 100). Starostin (1991: 291, no. 383) has even speculated that it is possible to connect OJ *usi* 'cow' with the Tungus words for 'flesh, meat', reconstructing an

original pAlt. $*ul_2V$ despite the lack of Turkic evidence for this etymon (but the -*s*- in OJ *usi* would of course serve as a surrogate in this case for Turkic *š*). This then brings into the range of the etymology a rich variety of Tungus forms that exhibit precisely the *Gleitlaut d* and *vibrans d̕, t̕* of which Menges earlier wrote (e.g. Ev. *ulle, ulde, uldre*; Lam. *uld̕a, uldo*, Oroč. *ukte ~ utte < *ulte*, all 'meat; flesh', TMS 2.262a-b.) Cincius (1949: 195-203 § 55) had exhibited these reflexes, but took an earlier $*l$, *n, m,* etc. + $*s$ sequence as primary, in which surely misleading idea she was uncritically followed by Benzing (1955: 39, 41, 46, §§ 51c, 53d, 57d). Similarly suggestive and also bearing upon the problem at hand are such sets of forms as Ev. *ollo*, Lam. *olra*, Orok. *xolto*, Olč., Nan. *xolto^n* 'fish', var. 'fish soup(s)' (TMS 2.14a-b). The possible historical significance of the dental stops that turn up in these Tungus 'meat' and 'fish' words was early indicated by Menges (1968: 134); now, in the light of the present suggested analysis of $*l_2$, $*r_2$, and particularly in view of Starostin's somewhat bold but by no means impossible reconstruction of $*l_2$ for an Altaic root 'meat', which would then be cognate with the Tungus forms in -*lt*-, -*d̕*-, and -*ldr*- cited above, we appear to be well on the way toward answering this important question concerning the origin of the dental stops that apparently account for the later *š* and *z* of the greater portion of the Turkic languages, by way of affricates of the order of [t^š] and [d^ž].

Is it possible to suggest a likely Altaic (or other?) etymology for this suffixed *-*g*- that, as we now have seen, appears to have played an important role in the genesis of these MK heteroclitics, and over and beyond that, in the evolution of one of the major hallmarks of comparative Altaic phonology as well? As we might well expect, more than one such etymological possibility presents itself, among which the two following appear to be the most promising:

1. Heteroclitics such as MK *tol.h*- 'stone' cannot but put us in mind of the form and function of the Tungus collective-suffix *+*g*, thus reconstructed by Benzing and defined by him as a morphological marker "für Sachen ohne Einzelbedeutung, die an einer Stelle vereinigt vorkommen" (1955: 1016-17, § 78). Both formally and semantically certain of his examples are highly reminiscent of representative MK heteroclitic nouns; cf. esp. Tg. *jolo* 'Stein', but *jolo.g* 'steiniges Gelände' (Benzing

1955: 1017; Ev. *ǰoloɣ, ǰoluɣ* in TMS 1.263b).[19] Semantically and morphologically such forms as Tg. **pere* 'bottom', Ev. *here*, Sol. *eri*, Lam. *her*, Ma. *fere* (TMS 2.370b-371a), against Tg. **pere.g* 'ground', Ev. *hergī*, Lam. *hergil*, Ud. *xegie* (TMS 2.368a-369a) put us in mind of MK *sta.h-* 'ground; the earth', one of the MK heteroclitics in vocalic *Auslaut* and hence not immediately relevant to our present investigation, even though its morphology may well, as suggested, be parallel with that of certain of the *-l.h-* forms in this set.

2. But equally and indeed if anything even more suggestive etymologically is the Altaic accusative case-suffix **-g*, originally reconstructed in this form by Poppe (1955: 574-576; 1977) for the pronominal (as contrasted with the nominal) declension, but subsequently identified also in a wider variety of syntactic and lexical contexts that now make it possible to assign this morpheme a role in the Altaic linguistic unity well over-and-beyond its later somewhat restricted employment in the pronominal paradigm.[20] Whether we should directly identify this **-g*, documented in our MK records as having been suffixed throughout the paradigms of these heteroclitic nouns, specifically with the Altaic accusative case-suffix is a moot question; it would be better perhaps to term it a generalized obliquus-suffix that was at the same time both formally and semantically identical with the otherwise widely distributed Altaic accusative morpheme.

Earlier suggestions along these same lines have already met with heavy fire in the literature. As too usual in such matters, these counterblasts have not involved refutation of arguments or corrections of data

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[19]   Both OJ (*Nihon shoki*, ed. *Nihon koten bungaku taikei*, 1.611-612 note 8) and OK (*Samkuk saki*, ed. Chōsen shigakkai, chapter 36, p. 2) sources preserve partial phonogram writings for a Paekche Old Korean word for 'stone' that has a final syllable in †*ak*; surely this form has some connection either with the later MK heteroclitic *tol.h-* or with Tg. **ǰolo.g* (or perhaps with both?). But none of these forms have anything to do with the early NK *tolk* 'stone' registered once in a text of 1736 (Yu 230b), glossing a Chinese passage from the *Odes* (3.1.1), "[my mind] is not a stone"; there the *-k* is no more than an ill-educated scribe's attempt to write the heteroclitic with the nom. case suffix, and the comments of Krippes (1991: 220) on the citation are entirely misleading.

[20]   Miller (1977, 1992-1993: 302-303).

but instead relied for their impact chiefly upon sarcasm and innuendo, holding up to implied ridicule our suggestion of "an analogical extension of the accusative form, which for some reason [Miller] seems to think more common, to the other forms of the paradigm" (Martin 1991: 255 note 13).

For anyone enjoying even a modest familiarity with what has been learned of the history of some of the better documented language families of the world, this coyly-highlighted "some reason" will hardly be either obscure or irrelevant. The proliferation of the Vulgar Latin accusatives and the apparently irresistible force that they exerted in the course of their invasion of the other case-forms is too well-known to students of historical linguistics to require further comment or elaborate citation of forms. "Received wisdom has it that the Romance noun is normally derived from the Latin accusative form, the singular of which is usually cited as the etymon. ... The best evidence that Romance nouns do not normally derive from the nominative Latin forms is provided by the third declension, where very frequently, mainly as a result of sound changes that occurred in Latin, the nominative singular stem is shorter than that of the rest of the paradigm. Nearly always it is the longer (oblique) form that seems to survive into Romance ..." (Posner 1996: 119-120). It was even the oblique plural, and not the nominative singular, that invaded the territory of the singular predicative adjective in Romance; small wonder then that Romance linguists routinely cite the Latin etyma of their nouns in the accusative form but without the final consonant (Posner 1996: 118, xvi). With examples such as Fr. *pont*, Sp. *puente*, Ital. *ponte* not from *pons* but from *pontem*, and Fr. *rien* and *mon* from *rem* and *meum* constantly in mind, the Romance linguist has good reason to assign this all-important role to the accusatives, or if one prefers, to the obliquus forms.

Moving back to the languages with which we are here concerned, this same paradigm-invading potential of the Altaic accusatives is documented in such frequently encountered accusatives carried over as nominatives, or at best as rectus, resp. absolutus forms as the Jurchen accusatives in -*i* that we often find in the isolation form under which words are entered in Chinese-Jurchen bilingual materials. Two citations will easily serve to represent the many that might be quoted: Jrc. *'oh-žan-ni* 'master', i.e. †*ejän.i*, an accusative in -*i* found as the citation form for the Jurchen cognate of Ev., Neg., Orok. *edī* 'man', Ma. *ejen* 'master' (TMS 2.438b; cf. Menges 1995: 206); Jrc. *puh.'a-i*, i.e. †*bu'a.i*, 'district', cog-

nate with Ev. *buɣa*, Sol. *búɣa*, Olč. *bā, bŭa*, Ma. *ba* id. (TMS 1.100a-101a). These *-i* accusatives also have impeccable Altaic credentials.[21]
Poppe (1955: 576, 1977) reconstructed this case-suffix specifically from the accusatives of the pronominal paradigms, but as we have shown elsewhere at considerable length, in most of the Altaic languages but particularly in Old Japanese this accusative *-i* was a morphological element of enormously wide employment, particularly embracing (but by no means restricted to) marking the subjects in indirect discourse constructions (1989b, 1992-1993: 303). It is not always an easy matter, particularly in early Korean texts, to distinguish between evidence for this same *-i* accusative and an unfortunately homophonous so-called "*-i* subject case" (NK *ču.kyŏk* < NJ *shukyaku*). Part of the problem lies in the school-terminology for these forms, which are actually obliquus in terms of their syntactic employment as well, in all probability, in their ultimate historical origin as survivors of the Altaic third-person-possessive in *-i* (Ramstedt 1939: 38; Menges 1984: 242). At any rate, this obliquus *-i* was early petrified in Korean (Yang 1974[8]: 606); and Korean forms with this case-suffix in place were taken over in significant numbers in many of the early Korean loanwords that distinguished the liturgical lexicon of Old Japanese Buddhism, *primus inter pares* in this category being the term itself for *buddha*, OJ *Fötökë*, which entered OJ from Paekche OK †*putt'a.i*; later and elsewhere in Korean (and sometimes without the *-i*) the word yielded MK *put'yŏi, put'yŏ*, and NK *puč'ŏ* (Miller 1989a: 242-243). In a word, whether one looks to the east or to the west, there is no dearth of evidence documenting the paradigm-invading vitality of obliquus, especially accusative case-forms in a variety of different languages, the Altaic included; and our reason for earlier (and still now) suspecting that such an invasion was also involved in the history of the MK heteroclitics is anything but obscure or unfounded.

Favoring the identification of this accusative **-g* in tracing the Altaic history of the MK heteroclitics over the collective-suffix of the same shape, which in effect is our present proposal, has more than one ulti-

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[21] These same Chinese-Jurchen bilinguals frequently cite obliquus Jurchen forms showing the Jurchen reflex of the Tg. **-ba* / **-bä* accusative in place, thus Jrc. *yih-rh-'oh-poh*, i.e. †*ire'e.be* 'nation; large settlement' (WMo., Ma. *irgen*) (TMS 1.326b; Doerfer 1985: 117).

mate etymological advantage, two of which we shall here discuss brief-
ly.

Most important of these two is one that brings us directly back to the
specific question of the Chuvash reflex-data that remain our main con-
cern.

The hypothesis set forth thus far supposes that Turkic at one geo-
graphical extreme of the Altaic *Sprachraum* and certain kinds of Korean
as well as Japanese at the other inherited certain nouns in original *-l* to
which a paradigmatic-intrusive obliquus, resp. accusative case-suffix *-g*
had been attached; and that it was these *-l+g-* combinations that were in
turn responsible for the Trk. -*š*, OKor. -*š*, OJ -*s-* reflexes. By the same
reasoning, Chuvash must not have inherited these *-l+g-* forms. Its *-l*
nouns remained pristine and unsuffixed, and hence were ultimately
transmitted, through Old Bulgarian, as -*l* forms. So far well and good.
But this leaves us with the responsibility for answering the obvious
question that next arises: *Why* not?

For once the answer is simple, direct, and easy to identify. Pre-Chu-
vash did not know the obliquus-contaminated forms with *-g*, and so
Chuvash did not inherit *š* but instead simple *l*, because Chuvash did not
know the Altaic *-g* accusatives. All traces of the *-g* accusatives in
Chuvash, if indeed any ever existed, which seems unlikely, were obliter-
ated by the early falling together of the accusative and the dative (Poppe
1925: 416-419; Benzing 1942: 434-435, 462-463; Räsänen 1957: 58-
59; Menges 1995²: 113). Benzing's admirably detailed scenario evolved
in order to account for the early disappearance of the Altaic accusative
-g in the form of its Turkic reflex -*lg* is a model of historical-linguistic
accountability (1942: 462, § 69). He argues that it must once have been
present, but that sound-changes early rendered it homophonous with the
dative. In our terms this is no more than another way of saying that the
reason behind Chuvash's non-inheritance of these *-g*-suffixed forms is
clear. Chuvash did not inherit *-l-g-* because it early lost the *-g* compo-
nent of this combination, hence we have Chu. *čul, čol* 'stone' but Trk.
tāš.[22]

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[22] Involved also with the absence of the *-g* accusatives from Chuvash is that lan-
      guage's marking of its distinction between specific and non-specific objects
      (Benzing 1942: 434; 1955: 1028). This is a feature also familiar from Korean and
      Japanese, and deserves special study in future.

Of almost equal importance is the second consideration, which involves the etymological identification of the accusative *-g* with the widely attested and distributed eastern-Altaic accusative case-suffix *-ba / *-bä* (Ma. *be*, OJ *wo*, etc.; the *o*-vocalization of the OJ suffix, a neutralization of expected *ö*, because the sequence *wö* did not occur in OJ, is due to labial attraction following the initial). The ultimate etymological relationship between the Altaic accusatives in *-ba / *-bä* and those in *-g* may readily be traced in terms of Poppe's formulation of a regular development of original Altaic *-b-* either as later *-b-* or as later *-g-* when conditioned by the "strong" or "weak" nature of the vowel immediately following; in this context "strong" refers to occurrence before a long, or in many cases an originally high-pitch vowel (Poppe 1960: 40-41, 46; Miller 1992-1993: 302).[23] Further discussion of this important application of Poppe's reconstruction would take us mostly into Japanological areas and hence too far afield; but the formulation is incidentally not without value for providing an Altaic etymology for at least one additional Korean heteroclitic, MK *u.h-* 'top, upper part', NK *wi* (which form however presupposes earlier *ugi*), cf. Trk. *üγ* 'upper part, top ribs of a tent' (EDT 76a), Ev. *uγī, uwī, ūhi* 'top', Lam. *ujiγ*, Neg. *uwu, uγu, uu*, etc. id. (TMS 2.245a-246b), OJ *uFë < *uFa.i* 'top' (the OJ having again evidence of paradigm invasion probably by a Korean *-i*). The inclusion of the Japanese form in Ramstedt's etymology of this Korean heteroclitic (1949: 285) was surprisingly prescient; to that etymology Poppe (1960: 107) further added WMo. *ögede* 'nach oben', but the long vowel in his "ko. *ū < *ög*" was a lapsus). Obviously we have here to deal with another important Altaic form, one well represented in all the various branches of the family, whose reflexes may be brought into a rigorous scenario of phonological development only by studying them in terms of Poppe's formulation of the allophones of certain consonants in his so-called "weak" and "strong" positions. Similarly, it may be possible to identify the same phonological alternation, originating in shifts in pitch-position, resp. vowel-length, in the original language, in such forms as Nan. *girbi* 'precipice; vertical shore', which

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[23] Curiously enough, Poppe himself seems to have overlooked this application of his own law to the accusative case suffixes, writing, "das mandschurische Akkusativsuffix -*ba* kann man mit nichts identifizieren. ... Ich kann kein anderes, ähnliches Suffix in anderen Sprachen finden" (1952: 6; similarly, 1955: 575).

has been suggested as cognate with MK *kil.h-* 'road, way' (TMS
1.155b after Ramstedt 1949: 112; but Ramstedt did not know the hetero-
clitic in *.h-*).[24]

To be distinguished from all the above, but nevertheless not without
both Altaic and Turkological etymological interest, is a small set of MK
heteroclitic nouns in *-s.k-* (listed in Nam 549). Several of these have
interesting etymologies. MK *pas.k-* 'outside, apart' certainly goes with
Trk. *bašqa* 'another, beside, separate' and provides Korean evidence for
a relic-survival of the Altaic dative *-ka.*[25] MK *is.k-* 'moss, lichen' goes
with Ma. *nisi.kte* id., apparently isolated in Manchu (TMS 1.600b), but
earlier attested without the initial *n-* in Old Korean phonogram writings
as well (1995: 82). But the most interesting of all these *-s.k-* heteroclitics
is MK *tos.k-* 'a mat, esp. a bamboo mat spread on the ground for sitting
upon'. The shape and meaning of this form together immediately sug-
gest an etymological connection with Trk. *töšäq* 'mattress, bedding,
carpet; something spread out for sleeping' (EDT 563b; Erdal 1991.1:
249). So close, indeed, are these resemblances that one is tempted to
regard the MK noun as a borrowing from some Turkic original; and we
know that the Turkic formation has elsewhere at least left multiple and
easily identifiable loans (e.g., Doerfer 1965.2: 617-618, § 967, listing
Iranian, Urdu, Arabic *inter alia*). But we can hardly overlook the fact that
the Turkic *-š-* points backward in time to *-l+C-*; and in the same sense
as *töšäq*, the Uighur *Suvarṇa-prabhāsa* translation has *tölet* (EDT 563b,
494a; Erdal 1991.2: 425: "in fact always spelt *tölt*"). The received, and
no doubt descriptively correct, Turkological opinion sees in *töšäq* a
deverbal noun from *töšä-* 'to spread out (a mattress, etc.)' (EDT 561b;
Erdal 1991.2: 621) (but, as we shall have occasion to remark below, this
does not go very far toward reconciling the *-l-* forms of the *Suvarṇa-
prabhāsa* with the *-š-* forms of the balance of the Turkic data). Unfortu-

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[24] Ramstedt (1957: 122-123) did hint at the possibility that some cases of *l_2 might
      have originated in *-lb-*. Unfortunately in his later attempt to expand this idea
      Street (1980) became involved in highly speculative etymologies, and in (1985)
      only further clouded the issue by many quite unlikely and inaccurate Japanese
      etymologies.

[25] On the MK *-s.k-* heteroclitics see Miller (1996a: 149-150), but correcting the
      misprint there of Trk. *bašk* to read instead *baška*.

nately the MK -*s.k*- heteroclitics are too few in number to permit us, at the present time at least, to speculate upon their possible etymological contribution to the study of these Turkic forms; but surely they deserve notice in connection with the problem inherent in the Turkic data.

Most of our attention thus far has focused on etymologies that appear to throw light upon the genesis of the Ramstedt-Poppe Altaic $*l_2$, i.e. Trk. *š* :: Chu. *l*. But this is only because of an accident of the data. The majority of the MK -*l.h*- heteroclitics for which Turkic, resp. Altaic cognates may be suggested happen to point in the direction of $*l_2$. But $*r_2$ is, as we might suspect on general grounds of structural parallel and balance, also indicated in more than one etymology, among which the following are the most striking:

9. SHADE. Trk. *quz* (*qūz*?) 'the northern side of a mountain seldom reached by the sun; a place where the sun does not reach' (EDT 680b: "base of the word (etymology obscure) Az. *ğuzey*, Osm. *kuzay* / *kuzey*; Tkm. *ğuzay* 'north; northern'"), MK *kǎ nǎl.h*- 'dark, shady; north side of a hill' (glossed by Chin. *yīn* of *yáng yīn* 'positive and negative principle(s)'), NK *kǔnǔl* 'shade (of a tree); protection (of parents)'. The etymology is not without its phonological difficulties, but its rigorous semantic congruence speaks in its favor. One possibility is that the medial MK -*n*- is a survival of an original *-*ń*-, its loss reflected in the Trk. -*ū*-, and somehow connected (by semantic-category contamination?) with the medial of $*guñal_2$ 'sky, heaven' (§ 3 *supra*). At any rate, the MK form is clear evidence for the *$*r+g$ origin of the Turkic -*z* in this word.

10. SOURCE. Trk. *tȫz* 'root, basis, origin' (EDT 571a-b), MK ·*stǎl.h*- 'origin, ultimate source' (in texts between 1462 and 1467), MK ·*č'ǎl.h*- 'origin, source; wellspring' (in texts from 1481 on; neither form survives in NK; Nam 142a, Yu 183b; Nam 447b, Yu 691b). Each of the MK forms presents its phonological problems, but the overall semantic congruence is convincing, especially because the older form sometimes and the newer form consistently glosses Chin. *yüán* 'origin; source; well-spring' in both its abstract and concrete ("Brunnen") senses. The *č*- affricate is a normal later development of $*t+y$, $*t+i$; the aspiration as *č'*- may be due to the intrusive obliquus .*h*- < *-*g* in a variety of regressive assimilation that we shall discuss *infra*; the initial cluster of the older form is presently not to be explained. Benzing (1955: 1017) identifies his Tg. *+*g* collective suffix in Lam. *ńewte.g* 'Quelle(n)' < *ńewte* 'Quelle', but his form with .*g* is unknown to TMS 1.650a.

11.MUD. Trk. Chag., Kirg. *saz*, Chu. *šur, šor* 'swamp, marsh', WMo. *siruγa, siruγai* 'dust; soil, earth', Ev. *siruγī, siruk, hiruγī* 'gravel, pebbles; sandbank', Sol. *sergí* 'gravel', Nan. *sïjä, sïrō / ü* id., *sirge* 'isthmus' (TMS 2.96a-b), Old Koryŏ †*hălk* 'earth' (Sasse no. 53, p. 104), early MK †*hŭl* id. (Ogura 1941 no. 65), MK *hălk* 'mud; earth' (Nam 480a, Yu 738a), NK *hŭlk* 'mud, clay; earth, soil' (VGAS 30, 114 ("*sïr₂* 'Sumpf'"), EAS 2.705 ("Ung. *sár* 'Steppe'"), APP no. 24, p. 252; no 403, p. 291 ("*säŕV"). The other Altaic forms appear to indicate that the Korean words in -.*k*- are later, changed forms of earlier *-*l.h*- < *-*r.g*- clusters, and hence help to account for the Trk. -*z*, Chu. -*r* correspondence.

12. HUNDRED. Trk. *yǖz* 'a hundred'; "sometimes used less precisely for 'a great many'" (EDT 983a), Chu. *śěr*, MK *yŏ·lŏ.h*- 'all, every one, all of' (Nam 373a, Yu 562a, glossing Chin. *chū* 'all, every', Mathews 1362), NK *yŏlŏ-, yŏlŏs* 'a large number, many'. SEM 1162b suggests that the word is *yŏl* 'ten' + a suffix -*ŏs*; MK ·*yŏl.h*- 'ten' is probably, to be sure, somehow involved with the history of the form, but the details remain somewhat obscure. Is OJ *yŏrŏdu* 'a very large number', often glossing Chin. *wàn* '10,000', somehow also connected here (-*rŏd*- < *-*rt*-)?

13. PASSAGE. Trk. Uigh. (v. Gabain) *uz*, MTrk. *uzï* 'mountain pass' (DTS 620a, VEWT 517b) (EDT 278b, "*ŏz* 'valley and the like' translates *wādī*"), Chu. *var*, has no overt Korean cognate involving a cluster with *l*+C; but Lee (1958: 118 no 230) compared MK *o·lai* 'gate, entry door' with Ma. *uče* 'door', i.e. Tg. *örkä, Ev., Sol., Lam. *urke*, Nan., Neg. *ujke*, Ud. *uke*, Olč. *uče*, Orok. *ute* id. (Benzing 1955: 47-48, § 59; TMS 2.286a-b), WMo. *örüke* 'smoke vent in a yurt', MMo. *örüge* 'roof aperture' (VGAS 56, 87). The diminutive cited by Clauson as Uigh. *özek* 'small valley' (EDT 285a) is glossed in the Chinese original with a word that means 'mountain pass', not, with Sir Gerard 'a stream or valley between two mountains'. A precise correspondence in both form and meaning would be OJ *ura* 'bight, inlet, small bay; place where sea or lake water reaches into land' (OJ -*r*- < *r₂ following a long vowel).

Quite apart from these data pointing to *r+C origins of *r₂, i.e. Trk. *z*, Chu. *r*, it must also be noted in passing that Korean has a significant amount of evidence, most of which must await fuller treatment elsewhere, that appears to show that MK -*z*- itself was sometimes a reflex of this original Altaic phoneme—if not, which in more than one case is also possible, the result of loans rather than genetic inheritances.

MK *kăzăl.h-*, NK *ka'ŭl* 'autumn' has frequently been compared with Trk. *kǖz* 'autumn' (EDT 757a); and MK *kyŏ·zŭ*,[26] *kyŏ·zŭl.h-*, NK *kyŏ'ul* 'winter' has frequently been compared with Trk. *qïš* 'winter' (EDT 670a).[27] The heteroclitic -*l.h*- in the 'autumn' form is surely original. Fortunately we have an Old Korean writing of the last portion of this word in phonograms, OChin. **ts'ătši*,[28] with the usual Old Korean phonogram *ši* in close juncture with -*t*-, providing a striking confirmation from written records of the affricate development of *š* < **lg* that we suggested above, independently of the evidence of this text. Probably the 'winter' word acquired its -*l.h*- by semantic attraction from 'autumn';[29] but confusingly enough, it is clear that in early MK at least both words are recorded with vocalic finals, †*kŏză* 'autumn' and †*kyŏză* 'winter' (Ogura 1941, nos. 122, 132). More work with the texts will be necessary before the genial confusion of these forms can be sorted out into an order that will make it possible fully to exploit them for comparative ends.[30] And one cannot but wonder if Trk. *qïz*- 'to be red, glow with heat', *qïzïl* 'red' (EDT 681a, 683b) are not somehow related to MK *kŭzŭlŭm* 'soot', NK *kŭ'ŭl'ŭm* id., *kŭ'ul*- 'to become black with soot'.

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[26] The word appears *sic*, without -*l*, in the Chinese-MK dictionary of 1527, at A 1a, but the secondary lexical sources (i.e., Nam, Yu) have overlooked, or tacitly "corrected", the passage.

[27] *Inter alia* by Krippes (1991: 220). But both his Turkic and his Korean forms are mostly incorrect.

[28] Poem 13 in Yang (1974[8]: 613) = poem A XIII 2 in Sasse (1989: 242), who routinely misreads the phonogram *ši* as *l*. In the OK poetic corpus this word is remarkably well documented. Another poem (Yang no. 11/5) has the word in a rectus form, and a third (Yang no. 20/20) documents a later, non-Silla OK form in -*l*.

[29] Meanwhile, these -*l*-less forms render unnecessary the rule given in Martin (1992: 58) for "elision of *l* before an apical". The 1748 text he cites simply documents an original -*l*-less version of the form.

[30] Available materials on the modern dialects either show only -*l* forms for both 'autumn' and 'winter' (Ch'oe 1988: 166-167), or 'autumn' with -*l* throughout and 'winter' with predominant -*l* forms interspersed with a number of historically significant -*lgi, -lge* forms (Ogura 1944: 18-21), which must reflect the MK -*l.h*- forms.

Another hint that early Korean may under certain circumstances have had a *z* reflex for $*r_2$ is provided by such early loanwords as OJ *aze, aza* 'raised path (boundary) separating fields' (where the *-e* of the first member of the doublet especially speaks for a Korean origin, i.e. $*< a.i$); an older Korean intermediary form is yet to be identified, but a plausible cognate is readily available in NK *irang* 'the ridge and furrow of a field' (SEM 1324a), Trk. *īz* 'footprint, track, trace' (EDT 277a-b), WMo. *iraγa* 'furrow, wake in the water (after a boat)', Ma. *irun* 'furrow', Nan. *iru(n-)* 'garden bed; ridge; furrow' (SKE 71-72; VGAS 115; TMS 1.328b). The *aze, aza* forms cannot be genetic inheritances from $*r_2$, which regularly yielded OJ *r* or *t* depending upon the quantity of the vowel immediately preceding it; therefore they appear to be the result of an early borrowing, a fact also not entirely without interest for the history of the dissemination of agricultural practices in the Far East.[31]

If, as we hope we have been able to demonstrate, the small set of MK heteroclitics has preserved traces in its stem alternation of a phonological phenomenon that helps to clarify the genesis of at least a portion of the Trk. *š, z* :: Chu. *l, r* correspondences that have provided such a variety of problems of an analytical and historical nature for Altaic linguistics in recent decades, this should not be misunderstood as implying that all cases of this much-mooted correspondence revert to the originals of this small set of sources. Of course the original language had verbs as well as nouns, and other nouns over and above the ancestors of the MK heteroclitics. When these correspondences turn up elsewhere in the comparative Turkic lexicon each must be investigated separately, with a view to determining their source(s). For a number of verbs that happen both in MK and in NK to have a remarkably skewed morphophonemic structure, we have recently (1998b) collected evidence that here too reflexes of Altaic $*r_2$ may very well account for the observed situation, a solution that fits in well with the suggestions of the present paper since there too, Korean had, and still has, both *t* and *l* (i.e., historically, *t* and *r*) reflexes in a number of inflected roots and stems that elsewhere in Altaic show clear traces of $*r_2$.

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[31] At the very least, these comparative data, especially as they involve Turkic, throw grave doubt on the utility of Vovin (1993), who attempts to interpret MK /z/ as [ñ].

As we pointed out near the beginning of our discussion, it is to K. H. Menges that we owe the initial recognition of the historical-linguistic importance of the MK heteroclitics; he also was the first to identify the phenomenon of nominal heteroclisis in a small number of widely distributed Tungus roots. Two of these also deserve notice in terms of our present investigation, even though not all immediately involve Turkic cognates:

1. Menges (1968: 184) proposed reconstructing *ǰo.g* to account for the heteroclisis he detected in the morphology of a set of Tungus forms for 'house' or 'yurt', e.g. Ev. *ǰū*, Sol. *ǰūγ*, Neg. *ǰō*, Oroč. *ǰūg*, Olč. *ǰūγ*, Orok. *dūkū*, Nan. *ǰō(γ-)* (TMS 1.266b-267b). A Korean cognate may now be identified for this important term, in MK *t'ŏ.h-* 'dwelling' (Nam 457b-458a; Yu 713a). The rich comparative potential of this word has been obscured by over-reliance upon the sense of its NK cognate, 'site; place; building lot; foundation' (Martin 1992: 809b), similarly Ramstedt, EAS 1.174 ('Stelle, Platz, Pflicht, Situation'), 2.244-45, § 126 ('Stelle, Platz'). The Chinese glosses in the MK lexical sources make clear that it originally signified 'court; a room' as well as 'site, foundation'. The aspiration of the initial in MK *t'ŏ.h-* is also by no means lacking in historical-comparative significance. In addition to the traces it provides for older Altaic, resp. Turkic phonological heritage, the *-.h-* < *-g-* that we now understand as identifying this set of forms further left traces within NK in the form of an aspiration of the morpheme initial in those cases where the pre-Korean version of this initial structurally permitted aspiration; in other words, *p-, t-, k-* were aspirated when they derived from *p, *t, *k, but not when they reverted, e.g., to *b, *d, *g or *ǰ. This relatively simple phonotactic imperative explains why we find NK *k'o* 'nose' from MK *ko.h-*,[32] NK *k'al* 'knife; sword' from MK *kal.h-*,[33]

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[32] With the MK and NK 'nose' forms compare Tg. *ngōrg* 'nose', from *ngō- 'to smell, sniff', *ngō 'odor, smell, scent', Ud. *ngyʰö* 'nose', Orok. *naksa*, Nan. *ngokso* (Benzing 1955: 985; TMS 1.587b, 663a-664a).

[33] These Korean words for 'knife; sword' have been extensively if inconclusively studied in the literature (Joki 1973: 275-276; TMEN 3.496-498; Menges 1984: 269-270), mainly with a view to identifying an extra-Altaic original. But the present state of the problem is only that "a borrowing from some common source is assumed" (Gamkrelidze & Ivanov 1995.1: 826).

and NK *p'al* 'an arm' from MK *păl.h-*,[34] but NK *tol* 'stone' from MK
:tol.h-. In this last word both original **di-* and its (dialectal?) **ĭ-* were
initial phonemes whose phonotactic parameters did not permit aspiration
either in the original language or in its stages intermediate along the way
to Old and Middle Korean; hence the modern cognate has *t-*, not *t'-*.[35]
Similarly immune to this secondary, but hardly sporadic, aspiration were
heteroclitic nouns of the order of MK *:si:nai.h-*'mountain torrent;
Schlucht' since no aspirated *s-* ever existed at any stage in the system,
either Altaic or Proto-Korean. (The MK word is cognate with WMo.
sinaɣ.a 'bend of a river; mountain range, mountain spur', thus showing a
literal, genetic source for its *-.h-*; unfortunately it is misglossed in Lee
(1977: 180) as 'Bach' and in Martin (1992: 109) as 'stream', where
moreover the [l] in his *:si[l]-:nayh* form is wholly imaginary.)

2. Menges (1968: 184) also proposed reconstructing **dere.g* to ac-
count for the heteroclisis he detected in a large set of Tungus forms
including Ev. *dēr* 'surface', *dere* 'face', Sol. *derge, derel* 'face', Neg.
deyel, Oroč. *dey* 'face', Orok. *dere(l)* id., Nan. *derey, derel* id., Ma. *dere*
'face; table' (TMS 1.236a-b). But to a syncopated allomorph of **dere.g*
in the shape **der.g*, it would not by any means be impossible to relate
Trk. *yüz* 'the face', Chu. *něr* 'appearance, beauty' (EDT 983a), with the
-z accounted for by the **-r.g* of the proto-form (i.e. **r₂ < r+C*). This
probably also solves the problem of the *térgi* (Kašɣ.), *dérgi* (Osm.) 'a
portable table on which food is carried in' (EDT 544a), which Clauson
found impossible to analyze morphologically.[36] Similarly relevant is
Chu. *tără* 'top, summit, apex', which shows, as expected, an original

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[34] Choi Han-woo (1989: 49) compares these Korean words for 'arm' with Trk. *arq*
'excrement' (EDT 213a), WMo. *argal*, Ma. *fajan* (VGAS 11), for reasons that re-
main obscure. Poppe's "kor. *pal* 'Mist'" was an error, because the word is bor-
rowed from Chinese (Rosén 1986: 85); but of course even at best the form has
nothing to do with 'arm'.

[35] This effectively solves the problem of the initial *ĭ-* of the Tungus forms that led
Ramstedt (1949: 272) to label the 'stone' etymology "questionable". The com-
ments of Krippes (1991: 220) who also found the etymology "troublesome" are
incomprehensible.

[36] On the semantic parameters of this 'surface', 'face', 'table' etymon, see Kolesnik-
ova (1972: 276-277).

plain *-r* stem without trace of the obliquus *g; but even more striking is NK *ťal* 'a mask'. For this word we unfortunately lack any genuinely early written form (Yu 712a can cite nothing earlier than the Korean-Chinese-Manchu triglot of 1776); but on the basis of both form and meaning, and especially in the light of what we now know about the historical origin of the aspirated initials in the NK reflexes of the MK heteroclitics, it is not difficult to see in NK *ťal* 'mask' a regular development from earlier *dere.g ~ *der.g.

In yet another of his important early Altaic phonological formulations that is too easily overlooked, Menges has also gone far toward explaining how we may reasonably solve a puzzle that might otherwise confront us in this and other secondary applications of the Pritsak hypothesis. This is the apparent contradiction inherent in the overall Altaic as well as in the Turkic data, where we note that sequences of *l, r* plus various consonants have also survived intact, alongside the cases that we, along with Pritsak, now wish to suggest no longer show such an overt cluster but instead a fusion ("Verschmelzung") or other assimilatory change ultimately responsible for the correspondences that are our present concern. For Tekin (1969: 53-54), who believed that "the sound groups *rt* and *lt* are among the ... most durable consonant clusters in Turkic," the evidence that these sequences did occur (or for him, survived) was sufficient grounds for dismissing Pritsak's hypothesis out of hand. But he did not realize that a year earlier Menges had, in an entirely independent and different context, provided an answer that easily resolves this apparent internal contradiction in Altaic historical phonology.

Doublet forms in Manchu and other Tungus languages involving obvious cognates with *-rg-* on the one hand and *-ǰ-* on the other had long been noted and studied as somehow providing a clue to Tungus linguistic history. Ligeti (1960: 241-243) had discussed the apparent contradictions in the Manchu and other Tungus reflexes of *-rk-, *-rg-,* variously *-rk-, -rg- ~ -č-, -ǰ-,* at length.[37] But it remained for Menges (1968: 251) to

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[37] Unfortunately the full implications of the carefully reasoned and extremely cautious statements of Ligeti (1960) concerning this problem were not fully understood by Rozycki (1994), who attempts to use this phonetic criterion for identifying and dating (!) loanwords in a fashion never intended. See especially his pp. 227-229, where what he dubs his "strict methodology" neatly reverses the actual chronology of the data.

point out unambiguously that the evidence points, not to sporadic or contradictory developments, but rather to forms descended from differently vocalized allomorphs: Ma. *terge* alongside *seǰen* 'vehicle' is to be explained as descending from **terege* alongside **terge*, with the origin of the allomorphism in turn to be sought in prosodic or suprasegmental (pitch, tone) factors. Similarly, the *-rg-* in Ma. *dergi* shows earlier **dere.gi*, but the *-ǰ-* in Ma. *feǰile* 'under' shows **-rg-*, cf. Ev. *her-gī* id. In other words, no internal contradictions of the neogrammarians' assumption of regular sound change is involved, either with Pritsak's original formulation, or with our proposed extension of the same in terms of the MK data that, as we have suggested, appear to cast light upon the questions long posed by the persistence of Chu. *l, r* against Trk. *š, z*. It would appear that the MK heteroclitics, and by that same token the Altaic heteroclitic noun phenomenon in general, have implications for the genetic relationship of all these languages far beyond the admittedly limited scope of their lexical resources.

At the very least, the present proposal, like that of Pritsak years ago, has one point in its favor, which may not be immediately apparent to every student of historical Altaistics, or even to every Turkologist, and so deserves to be stated here in conclusion. Proposals such as these, if eventually they prove acceptable, deserve to be favored over the bulk of the other suggestions currently found in the literature, for the simple reason that they postulate process-and-result scenarios as explanations for observed data where until now we have had no real explanations at all, only nomenclature. What does it mean to the historical linguist to be told that "[t]he semantic, phonological and collocational affinity of *tölt* and *töçä-* can be explained lambdacistically" (Erdal 1991.2: 425), or that "*karïm* is (rhotacistically) derived from *kaz-*" (Erdal 1991.1: 293)? All this is mere nomenclature, an arcane variety of name-calling. The words used, like "sigmatism" and "zetacism", contribute no more to the description of historical linguistic change than epithets like "absurd" serve usefully to refute arguments based on the interpretation of data.

Even less informative are statements, deftly worded to avoid even a hint at a historical connection, that describe a relationship between Trk. *sögüš* 'roast meat' and *sögül-* 'to roast meat' as "cognate" but carefully leave it at that (EDT 823a-b), or that refer to Trk. *köšī-* 'to hide the sun' and *köli-* 'to be shady, to give shade to' as "an example of an *l / š* relationship in Standard Turkish" (EDT 716a). Trk. *kör-* 'to see' and *köz* 'the eye' are admitted to have "obviously a very old etymological con-

nection" (EDT 736a): But what then was it? And how does it help to be told not only that Trk. *tül* 'dream' is synonymous with *tüš* id., but that the two constitute "an unusual example of a *l / r* form in Uyγ[ur]" (EDT 490b)? This well-known doublet of *l / š* nouns, along with the *-l*-noun, *-š*-verb pattern in Trk. *tül tüšä-* 'to dream a dream', have of course prompted other explanations more informative than Sir Gerard's. Notable is that of Róna-Tas (1986), who with an eye on Chu. *tĕlĕk* 'dream', saw in WMo. *tölge* 'Weissagung' an old Chuvash-Bolgar loanword, and found in Chu. *tül-* 'herausfinden' the necessary semantic bridge between 'dream' and 'divination'. His argument to the effect that these words tell us nothing about any proto-language but merely illustrate how "lexical isoglosses need not coincide with phonological ones" has recently (1998: 69) been expanded and recast as part of a restatement of the Ščerbak scheme, now elegantly set forth in the abstract though virtually unsupported by data.

But even if the unsolved problems of the Ščerbak hypothesis should one day be resolved, these 'dream' words offer no obstacle to the argument of the present paper. The *-lg-* of an Altaic prototype of *tölge* would regularly yield Trk. *-š*, while Chu. *tül-* would equally regularly descend from the simplex root **töl-* underlying the deverbal *tölge*.[38]

Perhaps widening the range of Altaic comparative materials, particularly by considering what may be available in Korean, may eventually shift discussions of these and parallel phenomena away from impressionistic name-calling, and into the somewhat clearer light of attested phonological processes.

Abbreviations

Frequently cited literature

APP = Starostin 1991	SEM = Martin et al. 1967
DTS = Nadeljaev et al. 1969	TMEN 2 = Doerfer 1965
EAS = Ramstedt 1957	TMEN 3 = Doerfer 1967
EDT = Clauson 1972	TMS = Cincius et al. 1975, 1977

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[38] We may also wish to compare MK *:tülp-* 'penetrate; find out (a way, how to do something); master (secrets of learning)', translated by (but not directly cognate with) NK *ttülh-*. The NK form shows *-.h-* < **-g-* which is to be related to the *-.p-* < **-b-* of the MK form by Poppe's Law of "strong" and "weak" positions.

Mathews = Mathews 1952   VEWT = Räsänen 1969
Nam = Nam Kwang'u 1972[2]   VGAS = Poppe 1960
SKE = Ramstedt 1949   Yu = Yu Ch'angdong 1984[5]
Sasse = Sasse 1976

Languages

Chag. = Chagatai   NK = New Korean
Chu. = Chuvash   OJ = Old Japanese
Ev. = Evenki   OK = Old Korean
Jrc. = Jurchen   Olč. = Olča
I.-E. = Indo-European   Oroč. = Oročii
Kirg. = Kirgiz   Orok. = Oroki
Lam. = Lamut   Osm. = Osmanli
Ma. = Manchu   pAlt. = proto-Altaic
MChin. = Middle Chinese   Sol. = Solon
MK = Middle Korean   Tg. = Tungus
MMo. = Middle Mongolian   Trk. = Turkic
MTrk. = Middle Turkic   Ud. = Udi
Nan. = Nanai   Uigh. = Uighur
Neg. = Negidal   WMo. = Written Mongolian

Special signs:

*   A form unattested but reconstructed by the comparative method.

†   A form attested in a text written with Chinese characters used as phonograms.

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On an ancient Uyghur Yarkand document in Arabic script

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This is a re-examination of the Turkic Yarkand documents examined in Huart (1914), Erdal (1984), and Gronk (1986).

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1. Introduction

At the beginning of this century on the outskirts of Yarkand under a certain flowering tree, nineteen Qarakhanid-period documents were found. The whereabouts of six are unknown, namely four Uyghur documents in Arabic script, and two Arabic-language documents (Lin 1992: 97). Those that are published or available for research at present are the following: Three documents in Huart (1914); five Arabic-language documents in Gronk (1986); and five Ancient Uyghur documents in Erdal (1984), four in Sogdian script and one in Arabic script.

Recently, we decided to re-examine the Arabic-script Ancient Uyghur document in light of Erdal's article. What follows are the preliminary results of our investigation.

The document that Erdal analyzed was first studied by the English scholar E. Denison Ross (whose analysis we unfortunately haven't seen). In 1942 the English Iranicist Minorsky supplemented Ross' copy

and Persian translation with his own English translation and annotations (Minorsky 1942).

This copy appears in Plate VII of Erdal (1984), based on Minorsky's reprint (1942: 191). For reference we have appended the revised reproduction that appears in Erdal (1984) at the end of this article.

The text of the revised facsimile is written on horizontally-scored white paper; like other Islamic-period documents (i.e. post-10th c.), it opens with the exhortation: "Allahu bismilla irahim ... ." The original document had a total of twelve lines, written from right to left in an Arabic-script-based Ancient Uyghur. An interlinear Persian translation, as appears here, was added later. In the main text, most of the words enclosed in parentheses do not have a Persian translation below them; it appears the translator was unsure of their meaning. The last two lines of the document contain a name list of witnesses. The copyist used short vertical strokes to separate their names.

The transcriptions below are based on accepted methods of transcribing Old Turkic documents; i.e. t = retroflex t; (...) = omitted from original, /.../ = text unclear. In addition, we have used the following symbols: j = [ʤ]; z-hacek = [ʒ]; h = [ɦ].

Transcription of the Ancient Uyghur text

1   *bu ol hät*   *turur*   *kim*   *bi{l}ik*
   this is document   stay-AO   CONJ   knowledge

   tanuqlari-ni   *hat*   *ahirid(a)*   *yad*   *qilildi (.)*
   witness-ACC   document end-LOC   record do-PSS-PT.III

2   *men h(ä)s(ä)n*   *h(oj)j aj-niŋ*   *oɣli*
   I   (pers.name))   Hajj-POSS   son

   m(u)h(äm)m(ä)d hajib   *iqrar*   *qildük*   */s(u)lumas/-qa*
   (personal name)   testify do-PT.Ipl.   (pers.name)-DAT

3   *bir kesäk iki*   */yük/* *orni*   *yer*
   one piece two   yuk   place-III   land

sa(t)tim   tört   h(ä)(d)di   birlä   miŋ   yarmaqa
sell-PT-Isg.   four   border   together thousand yarmak

4   *bu   yerniŋ   äwwäl   h(ä)(d)di   b(a)t(i)q*
    this land-POSS first   border   mud

    ariq (.)   ikkinč   h(ä)(d)di   m(ä)s'ud toɣril   sü-baši
    ditch   second   border   (pers.name)   officer

5   *yeri (.)   üčünč   h(ä)(d)di   č(i)mkat   qaši (.)*
    land-III   third   border   (toponym)   embankment

    törtünč   h(ä)(d)di   h(oj)jaji   hajib   yeri   üzh-
    fourth   border   Hajj   Hajib   land-III   mulberry

6   *mälik (.)   t(a)n(u)q   bu   tört   h(ä)(d)d   ičindäki   yerni*
    orchard   (extra word) this   four   border   inside-?LOC   land-ACC

    sattim   b(ä)hasi   t(ü)käl   buldum (.)   yerni
    sell.PT-Isg. price-III completely become-PT-III   land-ACC

7   *israfil hawli   sü baši-ɣa   opsarladim (.)*
    (pers.name)   officer-DAT   hand.over-PT.Isg.

    bu   yer   birlä   kimgä   ersä   dä'wa
    this land   together who-DAT   COP-COND   dispute

8   *d(ä)stan   yoq (.)   kim   dä'wa   qilsa*
    evil.plot   not exist   who   dispute   do-COND

    dä'wasi   batil   turur   tep   d(u)r(u)st-luq
    dispute.III   invalid   stay-AOR   (say)   realize?-

9   *üčün yil   beš   yüz   on beš   /tabsǧa(n)?, nak/*
    for   year   five hundred fifteen   /hare?/

    yili   r(ä)be'äl'ahir   ayinda   bu
    year   fourth   month-LOC   this

10 *hät*   *h(uj)j(ä)t*   *berdim (.)*   *(d(a)st-ih(ä)t*   *m(u)h(ä)m(mä)d haj(i)b/*
document text   give-PT-Isg.   ?writer   (pers.name)

11 *men* ʔ*um(ä)r (.)*   *men* ʔ*uθman (.)*   *men*
   I   (pers.name)   I   (pers.name)   I

   sü baši (.)   *bu*   *b(ä)y*ʔ   *üzä*   *t(a)n(u)q*   *men (.)*   *män*
   officer   this   transaction   in   witness   I   I

12 ʔ*adir dash(u)d ogli*   *t(a)nuq*   *men (.)*   *ähm(ä)d dashud t(a)n(u)q men*
   (pers.name)   son-III   witness   I   (pers.name)   witness   I

2. Annotations

The line number is followed by the word number, in parentheses.

1 (3) *hät.*
From Arabic 'character, word; letter; document'. Similar semantically to Ancient Uyghur *bitig.*

1 (5) *kim.*
Used here as a conjunction; the following clause is the attributive clause of the *hät* in the previous main clause.

1 (6) *bitik* [sic!] *bi{l}ik.*
Erdal believed this could have been a scribal error of the possessive suffix *-niŋ*, or *aniŋ* 'its'. But considering the context of the entire document, and the fact that the Persian translation has *dana* 'knowledge', *bilik* must have been miswritten as *bitik.*

1 (7) *tanuqlar-ni.*
Erdal transcribed this as *tanuqlar (a)ti* 'the names of witnesses', interpreting the accusative suffix as *ati* 'their names'. Perhaps this interpretation is the result of studying other documents with similar copying errors, but Erdal himself attached a question mark to his interpretation. The Persian translation uses an accusative postposition, suggesting *-ni* in the Turkic text. However, the collocation of an accusative *-ni* with the passive-reflexive verb *qilildi* is rather unusual.

1 (9) *ahirid(a)*.
The final *a* was not written by the copyist.

1 (10) *yad*.
From Persian 'record'.

2 (2) *h(ä)s(ä)n*.
Erdal transcribed this as *h(u)s(e)n*, based on Huart's fifth Arabic document: *M(u)h(a)m(ma)d bin al-hag(i)b bin al-H(u)s(e)yn al-h(a)gh(gh)agh bin Nöš-tegin ögä*.

2 (3) *h(oj)jaj*.
Transcribed by Erdal as *h(a)j(j)č* (N.B.: Erdal's *gh* = our *j*). But the orthography of the time did not distinguish *j* and *č*; although this copy has *č*, it should be read *j* (i.e. [ʤ]). In the facsimile, this word appears as *h(oj)j as*. On top of the *s*, a *č* is written. This is an error. We believe that *h(oj)jaj* is a doubled form of *haj(i)* 'pilgrim, person on a Hajj'.

2 (4) *-niŋ*.
This is a possessive suffix, yet is written separately from *h(oj)jaj*; written above the latter is *bäg*, but this does not appear in the Persian translation. From the traces of writing it appears that the Persian translator added *bäg* above the text. Perhaps in the original the possessive suffix *-niŋ* was unclear, and the translator suspected it was *bäg*.

2 (7) *iqrar*.
From Arabic 'admission, recognition'.

2 (8) *qildük*.
Based on vowel harmony this should read *qilduq* (*qil-* 'do' + 1pl. past tense *-duq*). Given the context, it shouldn't be plural, but rather a singular (*qildim*) although the Persian translator also used the first-person plural past tense. Perhaps this is also due to scribal error. Erdal has *qïld(ïm) k(i)?*.

2 (9) *sulumas-qa* (~ *salumas-qa*).
Erdal transcribed this as *Sïnmasta*, and suggested it was a toponym. The Persian translator added parentheses around *sulumas*; everywhere pa-

rentheses appear are places where the Persian translator was unsure of the meaning. *-mas* is very likely the imperfect negative adjectival suffix (cf. *yarimas, körmäs, pütmäs, tügimäs*). However, the Persian translator probably didn't understand the preceding part (*sul-* ~ *sal-*), hence the parentheses.

This word however is not a toponym, but rather it is the name of the person purchasing the land. The following suffix is *-qa*, not *-ta*: This is very clear if one compares it with the *-qa* at the end of the third line.

3 (4) *yük*.

This word is not translated into Persian; under the line of the [OU] original are only empty parentheses. The word means 'load' originally; it is used here to express the crop-carrying capacity of the land (i.e., how much seed can be sown on a given piece of land). It is a precise unit of weight. In the mercantile texts unearthed at Turfan, most used the unit *šïγ* 'hectoliter', or *küri* 'decaliter' as land quantities; these are usually interpreted as "land that can be sown with xx *šïγ* (or *küri*) of seed" (cf. Li 1996: 121). From this example, one could translate *iki* / yük / *orni yer* as "land that can be sown with two *yük* of grain". In addition, in Bukhara it equalled eight *pud*; that is, one yük equals 16.38 kg (Budagov 1871: 379).

3 (12) *yarmaq*.

This was due to the influence of the Qarakhanid fondness of Islamic culture, in which they used three grades of currency: The *dinar* (gold), the *dirxan* (silver), and the *farsi* (copper). In Ancient Uyghur, the *dinar* is called *yarmaq* (Lin 1992: 103).

4 (5-6) *b(a)t(i)q ariq*.

The Persian translator also wrote *batiq ariq* according to the original form, yet at the beginning of the line outside of the pair of lines appears the Persian *nahr-u joy* 'stream; irrigation ditch'; this corresponds to Modern Uyghur *petiq eriq* 'big'.

4 (11) *sü-baši*.

From *sü* 'troops' + *baši* 'head of', i.e., 'leader of the troops, officer'. It appears that this was an official position or a rank of nobility; we trans-

late it here as 'officer'. The Persian has 'water administrator'. Since *u* and *ü* are not distinguished in this document, the Persian translator mis-interpreted *sü* 'troops' as *su* 'water'.

5 (4-5) *čimkat qaši*.

The Persian translator has *kenare čimkät* (''čimkat's border(s)''). Here the meaning of *čimkat* is not clear; it could be the name of a village or residential area. *qaš* is used to indicate the boundaries of this village or area, delineated by a rather high embankment. It is similar to the high embankments (also called *qaš*) that are built in the present day to stop river irrigation canal water from overflowing its banks.

5 (8) *h(oj)jaji*.

Erdal transcribed this as *h(oj)jači*, mistakenly, it seems. This is the land-seller's honorific name.

7 (2) *hawli*.

Erdal transcribed this as *čawli*. Although this word was originally writ-ten as *čawli*, the original copyist and the Persian translator crossed out the three dots under the *č*. The Persian gives *hawli*, not *čawli*. In any case, the meaning of this word is unclear; here, we treat it as a personal name.

7 (5) *opsarladim*.

Erdal transcribed this as *uspa(r)ladïm*. The Persian translation means 'hand over, deliver'. We believe *opsar* is a root, -*la*- the Turkic verbal-izing suffix, and -*dim* the first person singular past tense, if one com-pares Modern Uyghur *yoputmaq* 'cover, conceal'. This appears in an early-twentieth century Chaghatay dictionary as *oputmaq* (Šeyx Süley-mān 1298: 24). Certain Modern Uyghur dialects also have *oputmaq*. Given the semantic equivalence of these to the Persian gloss in the current text, we consider *opsar* (and its derivative verb *opsarla*-) to be cognate with Modern Uyghur *yapsar* (and its derivatives *yapsarlaš*-, *yapsar kältürüš*, etc.) 'binded tightly, put / stuck tightly together' (said of e.g. two pieces of wood stuck / glued tightly together). Hence a / the sense of 'hand over' for Ancient Uyghur *opsarla*- is plausible.

8 (7) *batil*.
Arabic 'useless, invalid'. The original is written squeezed between the tops of the previous and following words, but the corresponding Arabic term below is clearly in line with the other words.

9 (2-6) *yïl beš yüz on beš*.
'Year 515', according to the Islamic calendar; corresponds to 1121-1122 A.D.

9 (7-8) */tabšǧan nak/*.
Not transcribed by Erdal. This edition of the text has two words, but they are unclear. It seems the copyist couldn't read the original very well, and therefore did not provide a Persian translation, instead just drawing empty parentheses. Under careful examination, the first word is *tabšyan*, the second, *nak*. However, the usual dot above the *n* is not written, and *tabšyan* is written *baburšya*, followed by a letter that might be *t* or *s*. [*tabšyan* may well refer to the 'Year of the Hare' according to the Chinese *ganzhi* Heavenly Stems and Earthly Branches dating system.] Particularly if we consider the preceding *yïl beš yüz on beš* (Year 515 = 1121-1122 A.D.), the Year of the Ox or Year of the Tiger), *tabšyan* should be 1123 A.D., and *nak* should be 1124 A.D., since the Year of the Hare follows the Years of the Ox and Tiger.

It seems that the copyist could not entirely make up his mind about the year nomenclature. Although the Islamic calendar-years in this type of document can be readily converted into Christian calendar-years, they do not mesh well with the Chinese *ganzhi* system of recording years. For dating this text, therefore, it is safest to use the date from the Islamic system (i.e., year 515) rather than the Chinese year system.

9 (10) *r(ä)beʔäl'ahir*.
Erdal transcribed this as *rabi'(a)' lah(i)r* 'the fourth month (of the Islamic calendar)'.

10 (2) *h(uj)j(a)t*.
From Arabic, originally in the sense of 'text, document'. Here together with *hät*, it forms a matched pair.

10 (4-6) /d(ä)st-i-h(ä)t muhämmäd hajïb/.
That which appears between slashes here was circled by the Persian copyist. It simply means 'by the hand of Muhammet Hajib'. Perhaps the copyist wanted to indicate here that this was indeed Muhammet's own signature. Erdal's transliteration doesn't have d(ä)st-i-h(ä)t.

11 (2) ʔum(är).
Erdal transcribed ʻ(U)m(a)r.

11 (4) ʔuθman.
Erdal transcribed ʻ(U)θman.

11 (6-7) sü baši.
In this copy it is nu baši, a mastaken reading of the original by the copyist. In our opinion, this refers either to the man israfil hawli sü baši himself (the man who was commissioned to sell the aforementioned land), or it refers to m(ä)s'ud toɣril sü baši, the owner of the second piece of property which was contiguous with the land in question. [5] The Persian has mansab 'official post or title'.

12 (1) ʔadir.
Erdal transcribed Qādir.

12 (2) dash(u)d.
Not written clearly, and not transcribed by Erdal. The Persian has 'patronym'.

12 (7) dashud.
Also not transcribed by Erdal; the Persian annotation has 'nickname', erroneously. We think that das(u)d in 12 (2) and dashud in 12 (7) constitute the same personal name. Dashud must be the father of the brothers ʔähm(ä)d and ʔadir, in 12 (6) and 12 (1), respectively.

3. Translation

1 This is a document in which the names of witnesses appear at the end.

2 I, Muhammed Haji, son of Häsän Haji, testify: I (take)

3 one piece of [land] plantable with two yük of seed, with four borders, and sell it to Sulumas [for a price of] 1,000 yarmaqs.

4 The first boundary of this land is a bog; the second boundary is Officer Mäs'ud Toɣril's

5 land; the third is the boundary embankment of Chimkat village; the fourth is the land of Haji Hahib. A mulberry

6 orchard. I sell the land within these four boundaries. I have already received the total sum. I have already [taken] this land and

7 handed it over to Officer Israfil Hawli. As far as the land is concerned, no matter who it may be, they must have a dispute.

8 If anyone brings up a dispute, then this dispute is invalid. In order to confirm [it], I

9 [on] the fourth month of the year 515 [the Year of the Hare],

10 refer to this document. / [Here is] Muhammed Hajib's signature / mark./

11 I, Umar, I Othman, I Officer serve as witnesses to the transaction in this document. I,

12 Adir, son of Dashud, am a witness; Ähmäd Dashud is also a witness.

Compared to the Ancient Uyghur documents unearthed at Turfan, the language of the Yarkand documents also has a few characteristics, especially its use of numerous Arabic and Persian loanwords (and Arabic / Persian roots with Ancient Uyghur suffixes). Also, some consonants are not represented in Turfan Uyghur documents such as this one.

4. Appendix

Those lexical items which appear in the text are listed below, categorized according to language of origin, with a bare root as header, followed by its inflected form, if any. A text location number follows (e.g. 1 (9) = line 1, 9th word).

Arabic loanwords

ahïr		'after; last'
	ahïrda	1 (9)
äwwäl		'before; first' 4 (3)
batil		'invalid, useless' 8 (7)
b(ä)ha		'price'
	b(ä)hasi	6 (9)
b(ä)y⁷		'transaction' 11 (8)
dä'wa		'dispute' 7 (10), 8 (4)
	dä'wasï	8 (6)
h(ä)(d)d		'boundary' 6 (5)
	h(ä)(d)dï	3 (9), 4 (4), 5 (3), 5 (7)
hajib		'official'; also used as term of address 10 (7)
h(uj)j(ä)t		'document, official dispatch' 10 (2)
hät		'document' 1 (3), 1 (8), 10 (1)
iqrar		'admission, recognition'
	iqrar qildük	2 (7-8)
r(ä)be⁷äl'ahir		'fourth month of the Islamic calendar' 9 (10)

[Iranic-] Persian loanwords

d(ä)stan	'cunning plot, ruse' 8 (1)
d(u)r(u)st-luq	'accurate, precise' 8 (10)
kim	(conj.) kim 1 (5)
yad	'memory, record' 1 (10)
üčün	'for, because of' 9 (1)

Ancient Uyghur lexical items

arïq		'stream; irrigation canal / ditch' 4 (6)
ay		'moon; month'
	ayinda	9 (11)
är-		'to be'
	ärsä	7 (9)

b(a)t(i)q   'mud'
       b(a)t(i)q ariq   4 (5-6)
ber-   'to give, hand over'
       berdim   10 (3)
biš   'five' 9 (3), 9 (5)
bitik   'document' 1 (6)
bir   'one' 3 (1)
birlä   'together' 3 (10), 7 (7)
bu   'this' 1 (1), 4 (1), 6 (3), 7 (5), 9 (12), 11 (7)
bul-   'to receive' ??b/c
       buldum   6 (11)
ič   'inside'
       ičindäki   'inside' (adj.) 6 (6)
i(k)ki   'two' 3 (3)
       i(k)kinč   'second' 4 (7)
kesäk   'piece, clump (of earth)' 3 (2)
kim   'who?' 8 (3)

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Translated by Arienne M. Dwyer.

Turkic words for 'steel' and 'cast iron'

Volker Rybatzki

As a continuation of an earlier article dealing with Turkic and Mongolian words for gold, silver, copper, bronze, brass, tin, lead and iron, the following article examines the Turkic words for steel and cast iron, namely *qurč, čelik, bulat, gang* and *čoðïn*, as well as certain word formations used to form the names of these metals. Mongolian and Tungusic words have only been included where they are common with Turkic ones. The distribution of the words for steel and cast iron is twofold. *Bulat* and *čoðïn* have a wide distribution; *bulat* being known from Turkic, Mongolian, Iranian and Caucasian, *čoðïn* from Turkic, Iranian and Caucasian languages. *Gang* and *čelik* have limited distribution, and these words occur only in Turkic languages situated closely to the donor languages Chinese and Persian. The word *qurč* is well attested in Middle Turkic times; presently its distribution is restricted to the South-East and Volga Turkic languages. The word is known in Mongolian with a different meaning. All of the afore-mentioned words are loanwords from Chinese or Iranian and, surprisingly, no genuine Turkic words for steel and cast iron are known.

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In an article entitled "Bemerkungen zur türkischen und mongolischen Metallterminologie" and published in *Studia Orientalia* 73 (1994), 193-251, I dealt with the Turkic and Mongolian words for gold, silver, copper, bronze, brass, tin, lead and iron. As a continuation of my *Studia* article, I now present the reader with an article addressing the semantics, distribution and etymology of Turkic names for steel and cast iron. Where they are common with Turkic names, Mongolian and Tungusic names for steel and cast iron have also been included in this article. The Mongolian-Tungusic word *širemün* 'copper; cast iron; brass, bronze,

ore' has been excluded and may be treated in another article dealing with Tungusic(-Mongolian) metal terminology.

Steel terminology

The Turkic and Mongolian cultures know four widely distributed names for 'steel': *qurč, bolat, čelik* and *γaŋ*. As closer observation will reveal, all of these names seem to be loanwords from the languages of the surrounding cultures. In addition to these four terms, some languages use *tämir* for 'steel': Kip. *tämür, tämir; demür* 'Eisen, Stahl' (Houtsma 1894: 68, 74); Mgh. *timūr* 'Stahl' (Weiers 1975: 162). Some Mongolian languages use word compounds of the type "steel-iron" to denote steel. In Turkic this kind of word formation is found only in Tuvinian as a loanword from Mongolian: Tuv. *qaŋ tämir* 'Stahl' (RII 80); MoL *γang temür* (Lessing 1960: 348); Khal. *gan tömör* 'steel' (Hangin 1986: 111); Bur. *gan temür* 'of steel' (Čeremisov 1973: 145); Kal. *gaŋ tömṛ, bold tömṛ* 'Stahl' (Ramstedt 1935: 407a, 50a). This formation could be a loan translation from Chinese *tie gang* 'iron-steel = steel, pure steel' (Mathews 1975[13]:6332/80), also found in Dungan *gonte* (Russko-dunganskij slovar' III.212) and Korean *kangch'ŏl* 'steel' (Kwon 1978: 447, 2231).

Turkic *qurč* 'steel', Mongolian *qurča* 'keen, sharp, acute'

The word *qurč* can be found in both the Turkic and Mongolian languages, but is absent in the Tungusic languages, cf. MT, Rozycki (1994). With the meaning 'steel; bronze, copper', *qurč* appears in Turkic languages: Uigur, SE- and NW-languages, Volga-Tatar languages and Chuvash 'steel', Karaim 'copper' and Uzbek 'bronze'; in Mongolian languages *qurča* only has the adjective meaning 'keen, sharp, acute'. A similar meaning, 'tough, hard', is obtained in Uigur, Karakhanid, Karaim, Kumyk and the Altai-Turkic languages. In the latter two the semantics 'steel' are unknown and the words have to be considered as loanwords from Mongolian, as the same semantics are visible there. From Uzbek and Turki the word spread into some East Iranian languages and Burushaski.

Taj. *qurč* 'firm, compact '(Rahimi & Uspenskaja 1954: 492). Shug. *kārč* (Morgenstierne 1938: 55*); Wakhi *qurč* (Shaw 1876: 257), *qïrč* (Grünberg &

Stéblin-Kamensky 1988: .219); Srk. *qurč* 'steel' (Shaw 1876: 257). *Bur.
qurč 'a kind of hard iron' (Lorimer 1938: 300).

Uig. *qurč* 'dur; acier' (Hamilton 1986: 236). Turco-Sogd. *qurč* [xwrč]
'PN' (Sims-Williams & Hamilton 1990: 87). Krkh. *qurč* 'tough, hard', *qurč*
tämür 'steel' (Clauson 1972: 647). Kip. *kurč* (Houtsma 1894: 88); Cum. *qurč*
'Stahl' (Grønbech 1942: 203). KarT, KarL *qurč* 'steel' (RII 952), KarT *qurč* i)
'(of) steel', ii) 'firm, hard; sharp', KarH *kurc* 'copper' (Baskakov &
Zajońkovskij & Šapšal 1974: 349). Uzb. *qurč* 'bronze' (Borovkov 1959:
632), Sart *qurč* 'Stahl' (RII 952). Turki *qu(r)č* (Raquette 1927: 113), *qu(r)č*,
quruč, qujuč 'steel' (Jarring 1964: 256); *xuruč* 'materials; condiments, reason-
ings; flavoring' (Schwarz 1992.385); TurkiT *xuruč, xuruč* 'gutes Eisen
(Stahl?)' (Le Coq 1910.91). Chuv. *xuršă* 'steel' (Sirotkin 1961: 510); *xorźə*,
xurźə, xuraś 'Stahl; Stärke (des Bieres etc.)' (VEWT 303, Paasonen 1974: 52-
53). Tat. *qorič* (Golovkin 1966: 285), *qöröč* (RII 677), TatET *qurətʃ* (Chen &
Ilchen 1986: 160); Bash. *qoros* (Axmerov et al. 1958: 339); TatT *quruc*
'Stahl' (RII 935). Bar. *qurc* 'scharf' (RII 956). KrBl. *qurč* 'steel' (Tenišev &
Sujunčev 1989: 427). Kum. *qurč* 'vigorous, strong; brave, able, fit, clever;
bold' (Bammatov 1969: 207-208). Kaz. *qoriš* (Maxmudov & Musabaev
1954: 477), *quruś* (VEWT 303); Kir. *qurč* 'steel' (Judaxin 1965: 451). Oit.
qurč 'sharp, pointed; cutting; smart' (Baskakov & Toščakov 1947: 96). Alt.,
Tel. *kurč* 'scharf', (Alt.) 'stark, tapfer, mutig, scharfsinnig' (RII 952). Tuba-
kiži *qurč* (Baskakov 1966: 132); Kmd. *qurč* 'sharp, pointed' (Baskakov 1972:
228). Leb. *qurč* 'strong, vigorous, powerful, mighty; compact, hard; brave,
courageous, bold; shrewd, sagacious; ingenious, spirited; witty, funny'
(Baskakov 1985: 171).

MMoM *qurca* 'scharf (Gesetz, Kampf)'; *Qurcaqus, Qurcaqus Buyiruɣ Qan*
'PN' (Haenisch 1939: 72, 177). MMoS *qurca* 'scharf' (Haenisch 1957: 31,
815; Haenisch 1952: 53). MoL *qurča* (Lessing 1960: 987); Khal. *xurc* 'sharp,
acute; alert, keen; intelligent; bright; very oily, greasy, rich (of food)' (Hangin
1986: 692). BurT *xurse*, BurH *xursa*, BurS *xurca* 'scharf' (Castrén 1857b:
128); Bur. *xursa* 'sharp, pointed; bright, clear; oily; spicy, aromatic; exact,
precise; keen' (Čeremisov 1973: 602-603). Bur., BurB *xurs*; Bar. *xurtʃin*;
ChrZ *xurtʃ*; ChrD *xurtʃin*; ChrS *gurtʃ* 'sharp, acute, keen' (MYYC 391).
Ord. *ɣurtš'a* 'tranchant, aigu' (Mostaert 1941-1942: 316b). Khrn., OirE, OirD,
OirH *xurtʃ*; Shr. *qurtʃa* 'sharp, acute, keen' (MYYC 391). Muo. *xudža*
'sharp, pointed', MuoM *xudža* (Todaeva 1973: 377); Muo. *xud'žiä* 'tranchant,
aigu, pointu, pénétrant' (Smedt & Mostaert 1933: 174), *xudžadə* 'sharp,
acute, keen' (MYYC 391). Oir. *xurca* 'sharp, pointed' (Krueger 1978-1984:
300). Kal. *xurts^a* 'scharf, beissend' (Ramstedt 1935: 119).

The word *qurč* / *qurča* has generally been considered a Turkic word; Ramstedt (1935: 119) even thought that the Turkic and Mongolian words to be "urverwandt". Dispute occurred only over the question whether the original meaning of Turkic *qurč* was 'hard, tough' or 'steel', the former point of view being taken by Clauson (1972: 647), Menges (1959: 179-180, 1983: 129) and Räsänen (VEWT 303), the latter by Doerfer (TMEN #1455). The starting point of the discussion was Karakhanid, where *qurč* means 'tough, hard', and 'steel' is called *qurč temür*. In this connection one should remember the above-mentioned word formations of the type "steel-iron", as well as the following Mongolian word formations consisting of two steel names: MoL *γang bolud* (Lessing 1960: 118), Khal. *gan bold* 'steel' (Hangin 1986: 111); Ord. *Gaŋ Bolot* 'n. p. m.' (Mostaert 1941-1942: 291); Bur. *gan bulad* (Čeremisov 1973: 145), Kal. *gaŋ bold* 'Stahl' (Ramstedt 1935: 50a). These show that a formation "sharp / hard iron" to denote 'steel' is not known. The formation "steel-iron" or "steel-steel", on the contrary, is quite frequent, so that this may also be the meaning of the Karakhanid word formation, and the original meaning of *qurč* may well be 'steel'.

The origin of the word *qurč* has not been addressed, but I would like to consider *qurč* a loanword from an East Iranian language. The word is not very widespread among Turkic languages; the distribution on the Mongolian side points to the fact that the word is a loanword from Turkic there. I take *qurč* to be a loanword from Iranian **kārti* 'knife', as the word is originally found only in Turkic languages situated closely to East Iranian languages, where the sound change *-rti > -č* is attested (Morgenstierne 1927: 19, 21), cf. also Balochi *kārč < *kārti*, Middle Persian *kārt* 'knife' < **kār-tya-* / *kārti* (Elfenbein 1991: 83). With a similiar change in semantics, Middle Persian *kārt* 'knife' has been borrrowed into some Finno-Ugrian languages, where *kort*, *kēr*, *kert*, etc. denote 'iron' (Joki 1973: 273).

Turkic *čelik* 'steel'

The word *čelik* is attested only in westernmost Turkic languages, and as a loanword from Turkic in some Caucasian languages. Probably *čelik* is a loanword in these western Turkic languages; its origin, however, still remains unknown. Menges (1959: 180-181, 1983: 130) connected *čelik* with similar words in Slavic and Romanic languages: Slavic *oceli* 'steel', French *acier* 'steel', Latin *aciarium*, as well as Armenian *aceli* 'razor', nevertheless unsure of the origin. As a loanword from Old

Croation, Slovinian or Slovak *acel* can be found in the forms *acél*, *acil*, *acel*, *acilus*, *ahel* (dialect form *acël*) as a personal name in Hungarian in sources from 1135 onwards (Benkő 1967-1976; Benkő & Honty 1992: 4-5). Benkő & Honty consider *acel* a loanword from Old High German *echil* 'steel'. To the last-mentioned wordgroups I would like to add Middle Persian [Z, M], New Persian *čēlān* [cyl'n] 'dagger', *čēlāngar* [cyl'nkl] 'swordsmith' (Mackenzie 1986: 22); Middle Persian [M], Parthian [M] *čīlān* [cyl'n] 'dagger' (Boyce 1977: 32). According to Piggot (1985: 627) *čēlāngar* means 'one who makes small ironware'. This last group may well be the source of the Turkic words.

> Caucasus: Abadzexian *čelik*; Šapsugian *šilič'*, *šilikj*; Lazian *čelik*, *čelighi* 'steel' (Erckert 1895: 132, 329)
> Chag. *čälik* (RII 1978); KarK *čèlik*, *čèluk* (Baskakov & Zajońkovskij & Šapšal 1974: 349); Gag. *çelik* (Doğru & Kaynak 1991: 55); Otm. *çelik* 'steel' (Redhouse 1983: 246). Tu. *çelik* '(of) steel' (Heuser & Şevket 1962: 110-111).

Turkic, Mongolian *bulat* 'steel'

Turco-Mongolian *bulat* 'steel' is one of the most widely diffused metal names, found in nearly all Turkic and Mongolian languages. Only the languages of the frontier areas do not seem to know the word. In the earliest Turkic and Mongolian sources from the 13th and 14th centuries, *bulat* occurs only as a male personal name: Uig. *Bulat Tämür* (Zieme 1985: 173), *Bulat* (Zieme 1977: 161, 6; 162; Yamada 1993: 53, 153, 72), *Bulat Buqa* (Yamada 1993.12); Byzantino-Turcica *Qarapolat* 'tatarischer Heerführer (ca. 1322)' (Moravcsik 1983.152); Kip. *Qara-Pulat*, *Aq-Pulat* (Sauvaget 1950: 37, 52); MMoU *Bolad* (Ligeti 1972a: 256, 273; Doerfer 1975: 206), *[Tü]men Bolad Qiy-a* (Ligeti 1972a: 227), *Bolad-qy-a* (Ligeti 1972a: 210), *Bolodbuq-a* (Ligeti 1972a: 71); MMoS *Bolot* (Haenisch 1952: 59; Ligeti 1972b: 150) and as a place name (?): MMoU *Bold-örö-te büküi-dür* 'während des Aufenthalts in Bold-örö', *Bolad-a büküi-dür* 'während des Aufenthalts in Bolad' (Ligeti 1972a: 223, 213). The earliest sources showing *bulat* 'steel' are Sino-Uigur and Sino-Mongolian from about the 14th century.

> Caucasus: Udian *pholad*; Čečenian *buölat*; Ingiloi *folad*, *pholad*; Budux *polat*; Georgian *foladi*, *pholadi*; Mingrelian *fulandi*, *foladi*; Svanetian *polad* 'Stahl' (Erckert 1895: 132, 325). Oss. *bolat* '(of) steel' (Abaev 1958: 265);

bulaf, OssT *bolaf* 'Stahl' (Hübschmann 1887: 121-122). NArm. *połpat*, *poγpat*, *p'oγp'at*, CArm. *połovat*, *połopat* (10th century) 'steel' (Menges 1959: 181).

Psh. *fulād* (Lebedev & Jacevič & Konarovskij 1983: 663), *fūlād*, *pūlād* (Zudin 1950: 123, 388), *folād, fulad, polād, pulād* (Aslanov 1966: 193, 634); Yid., Mnj. *pūlād, pūlōd, fūlâd, fəlâd* (Morgenstierne 1938: 237); Sng., Ish., *fūlād* 'steel' (Morgenstierne 1938: 392). Wakhi *pūlōd* 'steel' (Morgenstierne 1938: 533); *fəlod* 'acier, fer' (Grünberg & Stéblin-Kamensky 1988: 161). Shug., Bat., Baj., Shd., Rsh., Yaz. *pulod* (Sköld 1936: 302); *Kal. *pol'at* (Morgenstierne 1973: 129); *Bur. *fulad* y. 'steel' (Lorimer 1938: 155).

MP [Z] *pōlāwad* [pwl'pt] 'steel' (MacKenzie 1986: 69), *pōlāvatēn* [pwl'ptyn] 'made of steel', < *pōlāvat* 'steel' (Nyberg 1974: 162). MP [M] *pōlāwad* [Amîrxan 1992: 371), *pola, polad* (Kurdoev 1960: 621), KurA *pōła* (MacKenzie 1966: 104), KurdS *pōła* (Kurdoev & Jusupov 1983: 108); ENP *pōlād* 'steel' (MacKenzie 1986: 69). Pers. *pūlād* 'the finest Damascus steel, which, with that of Qūm, is esteemed the best in the East; steel generally, a sword; name of a demon and a famous warrior; a club'; *pūlādi hindī* 'an Indian sword'; *fūlād* 'steel' (Steingass 260-261, 942). Taj. *pūlod* (Rahimi & Uspenskaja 1954: 316); Dari *folād* (Lebedev & Jacevič & Konarovsij 1983: 663); Par. *fūlăd* (Morgenstierne 1929: 252); Orm. *pōlâd* (Morgenstierne 1929: 404); Bal. *pulād, pulāt, p'ulaṭ* (Geiger 1892: 457); *Brahui *folāt, pōlāt* 'steel' (Bray 1978: 110, 241).

Tib. *p'o-lád* 'steel' (Jäschke 1977: 346; Laufer 1916: 479, 125).

UigS *bolut* (pou-lou) (Ligeti 1966: 144); Otm. *pulad* [lrnd.] (Redhouse 1983: 940); Tu. *pulat(-d)* [veraltert] (Heuser & Şevket 1962: 508); Az. *polad* (Orudžev 1956: 659); Trkm. *polat* (Baskakov & Karryev & Xamzaev 1968: 531), *pulat* 'steel' (RIV 1374). Uzb. *pŭlat* 'steel' (Borovkov 1959: 335), *bŭlat* 'dial. for *pŭlat* in Tašbŭlat <male personal name>' (Laude-Cirtautas 1980: 134), UzbB *fulāt* (Olufsen 1905: 18), Sart *pulat* 'Stahl' (RIV 1374). Turki *palat* (Jarring 1964: 223), *pūlāt* (Le Coq 1910: 86), *polat* (Zhao & Zhu 1985: 224), *polat* (Schwarz 1992: 130-131), *pạlāt* (Raquette 1927: 113), TurkiKh *pulat* (Malov 1961: 146), Tar. *polat* (RIV 1278); Lop. *polot* (Malov 1956: 156); Chuv. *bulat* (Skvorcov 1985: 62); Tat. *bulat* (Golovkin 1966: 83), TatET *polat* (Chen & Ilchen 1986: 160); Bash. *bulat* (Axmerov et al. 1958: 117); TatK *polat* 'Stahl' (RIV 1278). KrBl. *bolat* '(of) steel' (Tenišev & Sujunčev 1989: 155). Kum. *bolat* 'steel' (Bammatov 1969: 80). Nog. *bolat* '(of) steel' (Baskakov 1963: 84). Kaz. *bolat* (Maxmudov & Musabaev 1954: 96); Kkp. *polat* (Baskakov 1958: 535); Kir. *bolot* 'steel' (Judaxin 1965: 143). Oit. *bolot* '(of) steel' (Baskakov & Toščakov 1947: 33). Altai-kiži *bolot*

(Baskakov 1964: 730), *polot* 'Stahl' (RIV 1279). Tuba-kiži *bolot* (Baskakov 1966: 109); Kmd. *bolot*, *polot* '(of) steel' (Baskakov 1972: 207, 242). Leb. *polot* (RIV 1279, Baskakov 1985: 189); Tel. *qara molot* (RII 137), *polot* (RIV 1279); Shor *molat* (RIV 2126); Khak. *molat* (Baskakov 1953: 109); Koi. *môlat*, KoiK *môlat* (Castrén 1857a: 159), *molat* (RIV 2126); Kam. *bolat* (Joki 1952: 96); Sag. *molat* (RIV 2126); *Kot. bolat*, (Pl.) *bolataŋ* (Castrén 1858: 224), *KotAr molát*, *KotAs balát* 'steel' (Joki 1952: 96). Tuv. *bolat* '(of) steel' (Pal'mbax 1955: 209), Soy. *môlat* 'Stahl' (Castrén 1857a: 159). Krg. *bolàt*, Tai. *bolátta* 'steel' (Helimski 1987: 59). Yak. *bolot* i) 'altertümliches kurzes Schwert, Damaszener Stahl; zweischneidige Waffe, Degen, Säbel', ii) 'Keule, Streitkolben' (Pekarskij 1917-1927: 494). Dol. *bolot* 'Schwert', *Bulat* 'Name eines Pferdes' (Stachowski 1993: 62, 65).

MMoS *bolo[t]*: *bolo[t] fulat* 'fine steel' [Kara 1990: 285, 295]. MoL *bolud* (Lessing 1960: 118), *bolod* (< *bolad*) 'steel' (Poppe 1987: 109); *Bolud* 'PN' (Schubert 1971: 81). Khal. *bold* (Hangin 1986: 67), *bollåt* 'steel' (Poppe 1987: 109); *Bold* 'PN' (Schubert 1971: 81). Bur. *bulad* (Čeremisov 1973: 110), BurN, BurT *bolet*, BurH, BurS *bolot* (Castrén 1857b: 169); BurIM, BurB *bold* 'steel' (MYYC 156). Dag. *bolto* [bolot] '(of) steel' (Todaeva 1986: 127). Bar., ChrS *bold*; ChrZ *bolod* 'steel' (MYYC 156). Ord. *Bolot* 'n. p. m.' (Mostaert 1941-1942: 291); *bolod* (Poppe 1987: 109), OrdO *bold* 'steel' (MYYC 156). OirE *bold*; OirD *bolod*; OirH *bold* 'steel' (MYYC 156). Oir. *bolod* 'steel, sword' (Krueger 1978-1984: 351). Kal. *bold* 'steel' (Iliškin 1964: 682); *bol°D* 'Stahl; (stählernes) Schwert' (Ramstedt 1935: 50a).

Evk. *bolot* 'Stahl' (Castrén 1856: 95, Vasilevič 1958: 60).

The word *bulat* in Turkic and Mongolian is a loanword from Early New Persian. Possibly the word was spread as a result of the Mongolian conquests in the 13th century, as already noted by Laufer (1919: 575). The origin of the word is unknown, according to Menges (1983: 129) *pūlād* is foreign in Persian. Abaev (1958: 96) also was unsure of its origin, but he refers to F. E. Korš (*Drevnosti Vostočnye* 4, 1912), who considered *pūlād* to be of Indian origin.

There are reasons why this last hypothesis seems acceptable. In earliest times Persian *pūlād* denoted damescene steel. The ingots from which damescene steel was produced, were, at least since the Islamic era, imported from South-Central India. But Alexander the Great had already received 100 talents of Indian steel as a tribute. After +115, when Parthians were importing steel from Margiana, Romans called this im-

ported steel *ferrum sericum*. Here *seres* may refer to China, but an iden-
tification with Southern India is also not impossible. Later sources stress
the quality of the Indian ingots. After the 17th century, when the English
became acquainted with these ingots, they were called *wootz*, a term of
Dravidian origin (Piggot 1985: 628-630).

Secondly *pūlād* is not the oldest Iranian name for steel, this being
haosafna, attested in the Young Avesta (Bartholomae 1904-1906:
1737). In modern East Iranian languages the meaning of *haosafna* has
changed to 'iron' (Morgenstierne 1927: 12, 107-108; Bailey 1979: 487).

In a book dealing with Indian arms and armours, a special kind of
sword, originating in the early 17th century, is called *pulowar* (Pant
1980: 66-67). This word cannot be connected with any Indo-Aryan
language. Strangely enough, the word resembles the Middle Persian
form of *pūlād*.

In Karakhanid the word *arūbāt* 'tamarind', structurally similar to
pūlāvad, occurs. Clauson (1972: 200) considered *arūbāt* to be an Indian
loanword. In an Uigur text *arvuud* "Name einer Droge in einem Rezept"
is found, but no explanation is given for this word (Röhrborn 1981:
219). It is difficult to find a direct Indian source for *arūbāt*, *arvuud*, there
are, however, some words that may be connected with the two words:
Skt. *ālu*, dialectical also *āru* 'esculent root of Amorphophallus cam-
panulatus'; *āluka-* 'a kind of fruit', *āruka-* 'a medicinal fruit of a Hima-
layan tree' (Turner 1966: #1388, 1389; KeWbAi I: 78, 81). It may be
that the Indian word was transferred to Turkic through Khotanese, as
we find in the later *aruva*, pl. *aruve*; Late Khotanese *arva*, pl. *arve*, *arrve*
'medicament' (Bailey 1979: 8). Possibly this Indian word entered
Karakhanid and Uigur through Sogdian mediation, cf. Sogdian [B]
'rwrh, *rwrh*, [M] *rwr'* 'remedy, medicine', = **rūra* < Avestian *urvarā*;
'rwrwyš'k 'medicinal herb', < *'rwr-* + *wyš* 'grass' (Mackenzie 1976:
86).

Turkic, Mongolian *gang* 'steel'

Gang 'steel', of Chinese origin, occurs in nearly all Monglian and Tun-
gusic languages. On the Turkic side the word is known only from those
languages, having very close contacts with Chinese, namely Turki, Sari
Uigur and Salar. In Tuvinian the word has to be considered a Mongol-
ian loanword.

ArCh *kang, ACh *kâng (Karlgren 1957: 697h); YMCh kaŋ, LMCh kaŋ, EMCh kaŋ 'steel' (Pulleyblank 1991: 103). Chin. *gang* 'hard, strong, tough; steel' (Mathews 1975[13]: 3272). Dun. *gom, gonte* (Russko-dunganskij slovar' III: 212); Sino-Kor. *kang*, kor. *kangch'ŏl*; Sino-Jap. *kō* 'steel' (Kwŏn 1978: 447, 2231).

Turki *gañ* (Schwarz (1992: 839); Sar. *kaŋ* (Tenišev 1976b: 200), *gaŋ* (Chen & Lei 1985: 158); Sal. *kaŋ, kaŋur, kaŋuř* (Tenišev 1976a: 200); Tuv. *kaŋ* 'steel' (Tenišev 1968: 225, Pal'mbax 1955: 209).

MoL *γang* '(made of) steel' (Lessing 1960: 348). Khal. *gan(g)* '(of) steel; (fig.) strong, durable' (Hangin 1986: 111). Bur. *gan* (Čeremisov 1973: 145), BurIM *gaŋ* (MYYC 282); BurB *gaŋ* 'steel' (MYYC 282). Dag. *gan* 'steel' (Martin 1961: 148, MYYC 282), *gaŋ* '(of) steel' (Todaeva 1986: 130), DagET *gaŋgu* 'Haken' (Kałużyński 1969: 133). Bar., Khrn., ChrS, ChrZ, ChrD *gaŋ* 'steel' (MYYC 282). Ord. *ɢaŋ* 'acier, punition, coups (par plaisanterie)' (Mostaert 1941-1942: 291b), OrdO *gaŋ* 'steel' (MYYC 282). OirE, Shr., OirD, OirH, Muo. *gaŋ* (MYYC 282); San. *gan* (Todaeva 1961.114); Bao. *gaŋ* 'steel' (MYYC 282). Kal. *gaŋ* (veraltert) 'Stahl, stählern' (Ramstedt 1935: 144a).

Evk. *gandi, gani, ganri* 'ognivo, metalličeskoe točilo' (Cincius & Rišes 1975: 319, Rozycki 1994: 95); EwkM, EwkIM *gaan* 'steel' (Hu & Hu 1986: 171). Orcn. *gang* (Sa 1981: 35), *gā(n)* (Rozycki 1994: 95); *Ghil. *q'a* /xa/ (Savel'eva & Taksami 1965: 407), *ka* (Grube 1892: 54141); Neg. *gan* (Schmidt 1923b: 17); Sol. *gaā*, SolO *gaŋ* (Aalto 1974: 62); Orc. *ga* (Schmidt 1923b: 17), *gā(n)* (Avrorin & Lebedev 1978: 171); Ude. *gaŋa* (Rozycki 1994: 95); Nan. *gā* (Rozycki 1994: 95), *gań* (Grube 1900: 32; Schmidt 1923b: 17, 1927: 33), *gan* (An 1986: 87); Uch. *gän* (Petrova 1936: 123), *gā(n)* (Sunik 1985: 181); Ma. *g'ang* (Hauer 1952-1955: 400); Sibe *gaŋ* 'steel' (Li & Zhongqian 1986: 144).

Salar *kaŋ, kaŋur, kaŋuř* 'steel' (Tenišev 1976a: 200) is very interesting as we find the suffix -*r* here, a suffix producing names, also visible in such words as *baq+ïr* 'copper' and *täm+ir* 'iron' (Rybatzki 1994: 220-221, 241-242).

Räsänen, in his VEWT (232), lists the following group of words occurring in Salar and South Siberian languages, together with Tuvinian *qaŋ* 'steel', writing Lebed *qaŋ* 'Zinn' < Mongolian *γaŋ* 'Lötung, Löt-material' < Chinese *kaŋ*:

SalA *kän* 'tin', *qara kän* 'black (raw, impure) tin', *ax kän* 'white (usual) tin' (Tenišev 1976a: 377); *ken* 'tin' (Lin 1985: 118). Khak. *xaŋ* 'tin' (Baskakov 1953: 272). Tel. *kaŋ* 'Metall (Zinn); Lot, Bindemittel beim Löten' (RII 80). Leb. *kaŋ* (Baskakov 1985: 157, RII 80); Koi., Sag. *kaŋ* 'Metall (Zinn); Lot, Bindemittel beim Löten' (RII 80).

Kal. *gaŋ* 'die Lötung; das Lötmaterial: Harz oder Salmiak' (Ramstedt 1935: 144a).

Radloff also (RII 80) seemed to consider these words identical to *gaŋ* 'steel' as he writes "*kaŋ* bedeutet unter den Sojoten des Kemtschik, Elikem und Schaganar Stahl, stählern, aber unter den Tel., Leb., Sag. und Koi. bezeichnet *kaŋ* Metall (Zinn); Lot, Bindemittel beim Löten". Misled by these explanations I, too, (Rybatzki 1994: 230) connected these words to each other, considering *qaŋ* 'solder' a loanword from Chinese *kang* 'steel'. This equation is definitely wrong. In fact, Ramstedt (1935: 144a) already made a distinction between Kalmuk *gaŋ* 'steel' < Chinese *kang* 'steel', and *gaŋ* 'solder' < Chinese, although no Chinese word was given as a source for the latter word. Mongolian *qaŋ* 'tin, solder', derives from Chinese *han* 'to solder; greaves' (Mathews 1975[13]: 2026), and Altai-Turkic *qaŋ* 'tin, solder' thus has to be considered a loanword from Mongolian, although the Chinese loanword is found as a substantive only in Kalmuk. In Classical Mongolian and Khalkha there is an occurrence of the verb *γangna-*, *gagnax* 'to solder, to join or make fast' (Lessing 1960: 349, Hangin 1986: 104); for other forms of the verb cf. MYYC 278. Salar *ken* 'tin' seems to be a direct loanword from Chinese.

Cast iron terminology

Besides French and English loanwords for 'cast iron', the westernmost Turkic languages have *dökme demir* [Tu. *dökme* 'Gießen; ausgegossenes Metall; Gelbguß' < *dökmek* 'ausschütteln; verschütten; ausgießen, vergießen; gießen (Metall)' (Heuser & Şevket 1962: 154)] and *ölü demir* [Tu. *ölü* 'Tote, Gefallene; tot < *ölünmek* 'irgend e-s Todes sterben' (Heuser & Şevket 1962: 486)] as a designation for 'cast iron'. Both word formations are to be regarded as loan translations from German or English: Gag. *ölü demir* 'cast iron, dökme demir, fon' (Doğru & Kaynak 1991: 71; Baskakov 1973: 138). Otm. *dökme demir* (Redhouse 1983: 310); Tu. *dökme demir* 'Gußeisen' (Heuser & Şevket 1962: 154).

Another possibility to form the word for cast iron is the connection of *temir* 'iron' with *qara* 'black', this often serving as a distinction from *aq temir*, which denotes 'sheet iron': Otm. *kara dämir* 'Gußeisen' (RIII 1699), *kara demir* 'wrought iron' (Redhouse 1983: 600); TuK *kara dämir* 'Gußeisen'. Az. *kara dämir* (RIII 1699); Tel. *qara külär* (RII 137); Kal. *xara tsō* 'Gußeisen' (Ramstedt 1935: 168a). In Telenghit cast iron is called *tämit*, this being the pl. of *tämir* 'iron'; cf. also Sino-Mongolian *temüt quya'ud-i* '(pl.-acc.) Eisenpanzer' (Ligeti 1972b: 139, 10r; Haenisch 1952: 10).

In some South Siberian Turkic languages *küler* means 'bronze, cast iron; steel'. This word is a Mongolian loanword. In the Mongolian languages the word only has the meaning 'bronze', the shift in the semantics, visible in the South Siberian Turkic languages, is secondary (Rybatzki 1994: 229).

Turkic *čoδïn* 'bronze' > 'cast iron'

The most widely diffused name for cast iron in the Turkic world is *čoδïn*, attested in different forms since Karakhanid times. The word has not spread into Mongolian languages, but can be found in some Iranian and Caucasian languages. The origin of some of these words is uncertain. The Caucasian words stem from Oghuz and Kipchak Turkic languages. The Persian word is most probably a loanword from Middle Turkic; the East Iranian words with -*y*- stem from Uzbek / Uigur / Tajik; the words with -*d*- are likely of Pashto origin. A Persian origin for these words is unlikely, as Persian *čodan* is a rare word.

In Karakhanid *čoδïn* meant 'bronze', in Cuman 'ore', later the meaning changed to 'cast iron'. The meaning 'ore' is still found in some South Siberian languages. A secondary meaning of the word is 'kettle'. From *čoδïn* the words *čuγun* and *čajγun* have to be separated, as these are of a different origin than *čoδïn*. This differentiation has not always been made, leading to much confusion about the origin of these words and their possible connection. *Čuγun*, having a much smaller distribution than *čoδïn*, meant originally 'kettle made of cast iron'. With this meaning, the word can be found in a number of Turkic languages. From Oghuz and Kipchak Turkic *čuγun* was borrowed into Caucasian languages and Russian. In Russian the semantics changed and *čuγun* denotes 'cast iron' there. With this secondary meaning the word has been reborrowed into some Turkic and Tungusic languages. In the Caucasian languages *čuγun* appears with the semantics 'kettle' as well as 'cast

iron', The last word *čajɣun*, found only in some languages, is a recent borrowing from Chinese *chaguan* 'tea-canister' (Mathews 1975[13]: 3574: 5).

i) *čoðïn*. Caucasus: Georgian (dial.) *čoina*; Avar *čojen*; Vejnachian *čuina* (Abaev 1958: 318-319); Čečenian *ču'jna* 'cast iron' (Karasaev & Maciev 1978: 698). Avar *čojen-xhag*; Andi *xagi-čujenthli*; Laki *čuën-naral-khunkhur*; Čečenian *čuina-jaï* 'Kessel (gußeiserner)' (Erckert 1890: Nr. 203).

Psh. *čudan* (Lebedev & Jacevič & Konarovskij 1983: 740, Zudin 1955: 1003); Shug. *čōyan* (Paraškevov 1976: 107), *čuyan* 'cast iron' (TMEN #1149). Yaz. *tšədan* (Sköld 1936: 329); Yid. *zäxči'dīn* 'kettle' < *zäx* '?' + *či'dīn* 'kettle' (Morgenstierne 1938: 276). Ish. *čüdan, čudan* 'cooking-pot' (Morgenstierne 1938: 387). Wakhi *čəyan* 'fonte' (Grünberg & Stéblin-Kamensky 1988: 148). Khv. *čid'īn* 'brass kettle' > Klsh. *čidh'in* (Morgenstierne 1935-1937: 665, 1973: 90b). *Bur. *čiʌn, čiʌn' čumar* 'cast iron'; *čiʌn' tiš* 'cast iron ploughshare' (Lorimer 1938: 97); *čián* 'Gußeisen', ys. *čián* (Berger mss 57); *čidin, čïdin*, pl. *čidiyo x* 'metal cooking-pot (of Kashgari or Indian origin)' (Lorimer 1938: 98); *čidín*, hz.ng. *-dío* 'metallener Kochtopf aus Indien oder Kashgar', ys., sh., *čidín* (Berger mss 57).

KurT *čodan* 'Gußeisen; gußeiserner Kessel, gußeiserner Topf' (Paraškevov 1976: 105). Pers. *čodan* (Lambton 1954: 213), *chaudan* (Steingass 402); Taj. *čūjan* (Rahimi & Uspenskaja 1954: 448); Dari *čōdan, čavan* 'cast iron' (Lebedev & Jacevič & Konarovskij 1983: 740).

Krkh. *čoðïn* 'bronze' (Dankoff & Kelly 1982: 311). Cum. *čojun* 'Erz' (Grønbech 1942: 75). KarK *čujun*, KarH *cojun* 'kettle', KarT *čojun, cojun* 'cast iron, vessel, kettle', KarK *čüjün* 'cast iron, kettle' (Baskakov & Zajońkovskij & Šapšal 1974: 633, 614, 630, 634). Gag. *čüven, čüen* 'kettle; (of) steel' (Baskakov 1973: 553-554). Otm. *choyan, tchoyan* 'cast iron' (Redhouse 1921: 741); the word does not occur in Redhouse (1983). Tu. *çövgen* (Dmitriev 1962: 551), TuK *čojun* (VEWT 113); Az. *čudan, čüdän*; Trkm. *čojun* 'cast iron' (Baskakov & Karryev & Xamzaev 1968: 737). Chag. *čüjen* 'gegossenes Eisen' (Vámbéry 1867: 281), *čoyïn* (San. 215v: 11) 'unsmelted iron' (Clauson 1972: 403), *čujun* 'cast iron' (Dmitriev 1962: 551). Uzb. *čujan* 'cast iron' (Borovkov 1959: 531). Turki *čöjùn* (Katanov-Menges), *čojun* 'cast iron' (Jarring 1964: 76); TurkiK *čōyun* 'geringes Eisen' (Le Coq 1910: 90); Tar. *čöjün* 'Gußeisen' (RIII 2039). Lop. *čujun* 'Gegenstand aus Gußeisen' (Malov 1956: 192). Tat. *čuen* (Golovkin 1966: 641), *čaun* (RIII 1831), *čojïn* (RIII 2171); Bash. *sujïn* 'cast iron' (Axmerov et al. 1958: 484). Bar. *cojïn* 'Gußeisen' (VEWT 113), *čojïn* 'Topf aus Gußeisen'

(RIV 202). TatTm *cujïn* (RIV 211); KrBl. *čojun* (Tenišev & Sujunšev 1989: 737); Kum. *čojun* (Bammatov 1969: 360); Nog. *šojïn* (Baskakov 1963: 414); Kaz. *šojïn* (RIV 1027), *šojun* (RIV 1026), *čujïn* (VEWT 113); Kkp. *šojïn* (Baskakov 1958: 738); Kir. *čojun* (Judaxin 1965: 869), *čujun* (Dmitriev 1962: 551); Oit. *čoj* (Baskakov & Toščakov 1947: 179); Altai-kiži *čoj* (Baskakov 1964: 840); Tuba-kiži *čoj* (Baskakov 1966: 165); Kmd. *čöj, čöjün* 'cast iron' (Baskakov 1972: 269). Leb. *čojïn* 'cast iron' (RIII 2017), *čojïn* 'iron ore; cast iron' (Baskakov 1985: 222). Tel. *čoj* 'Gußeisen, Eisenerz' (RIII 2003); *šoj* 'Gußeisen' (RIV 1002); *čö* 'Gußeisen, Erz' (VEWT 113). Shor *šojun* (RIV 1027), *sojïn, šöjün* (VEWT 113); Khak. *sojïn* (Baskakov 1953: 192); Koi. *soj* (RIV 512); Sag. *soj, sojïn, söjün* (RIV 512, 535, 580); Tuv. *šoj* (Tenišev 1968: 577); Soy. *šoj* 'cast iron' (VEWT 113).

Oir. *cöi* 'cast iron' [Rudneev *cȫ*] (Krueger 1978-1984: 638). Kal. *cö* 'cast iron' (Iliškin 1964: 775), *tsȫ* 'Gußeisen, Erz' (Ramstedt 1935: 432b).

ii) *čugun*. Caucasus: Oss. *cigon, cwan* 'gußeisern, gußeiserner Topf' (Abaev 1958: 311). Lezgian *čuɣeni* 'cast iron' (Abaev 1958: 318-319). Lazi *čukani* 'Kessel (kupferner)' (Erckert 1890: Nr. 204). Jassen (Hungarian Alans) *chugan* 'kettle' (Németh 1964: 17). Oss. *cwan, ciwan*; Megrelian *čuvani, čivani*; Lezgian *čuveni*; Svanian *čweni*; Vejnachian *čuon, čon*; Kabardinian *šuan*; Ubyhish *čuwan*; Abhasian *čwan*; Abazinian *čuan* 'cast iron' (Abaev 1958: 318-319). Abadzexi *šuann*; Lazi *čveïni, čuveni* 'Kessel (gußeiserner)' (Erckert 1890: Nr. 203). Svanian *čveïn-kardal, cveï-cxvad* 'Kessel (kupferner)' (Erckert 1890: Nr. 204).

Psh. *čugun* (Zudin 1955: 1003); Kur. *çigûn* 'cast iron' (Farizov 1957: 754).

Tu. (dial.) *çögen* 'Eigentümlicher, von den Tscherkessen zum Kuchen- backen verwendeter, gußeiserner Kochtopf mit rundem Boden' (Derleme söz- lüğü III 1968: 1279). Az. *čuɣun, čugun* (Orudžev 1959: 879); Chag. *čügen* 'cast iron' (Vámbéry 1867: 281). TurkiKh *čögün* 'gußeiserne Kanne', TurkiT *čoɣun* 'Teekanne', TurkiT, TurkiKh *čuɣun* 'gußeiserne oder kupferne Kanne' (Malov 1961: 173); TurkiT *čȫgün* 'Teekanne', qum *čȫgün* 'Teekanne aus schwerer schwarzer Sanderde, in Sïrqïp (zw. Turfan und Pi-čang) hergestellt' (Le Coq 1910: 90). Chuv. *čukun* (Sirotkin 1961: 541), *čukăn* 'cast iron' (Paraškevov 1976: 113); *čuɣun, čogon* 'Guß-, Roheisen' (VEWT 113). Tat. (dial.) *čögen, čögən* 'gußeiserner Topf' (Paraškevov 1976: 108). Bar. *cügün* 'Gußeisen' (RIV 213). KrBl. *coɣun* 'Kessel' (Paraškevov 1976: 110). Khak. *čugun* 'cast iron' (Baskakov 1953: 323). Kyz. *šuɣun, 'šuɣun* 'steel' (Joki

1954: 30). Yak. *čugūn* [Russ.] = *ǰugūn* 'cast iron' (Pekarskij 1917-1927: 3680).

    Evn. *čugun* 'cast iron, ore' (Halen 1978: 200). Evk. *čugun* (Vasilevič 1958: 321); Nan. *čugūni* 'cast iron' (Onenko 1980: 516).

iii) *čajγun*. Bar. *cäjgün* 'kupferne Teekanne, Gefäß zum Händewaschen' (RIV 197). Tar. *čöjgün* 'eiserne Wasserkanne' (VEWT 113). Sar. *čaγan* (< *ča* + *γan*) (Malov 1957: 139); Oit. *čojγon* 'Teekanne' (VEWT 113). Tel. *čojγon* 'der eiserne Topf', *čöjgön* 'Teekessel' (VEWT 113).

    OirH *tʃy:gen* 'kettle, pot; teapot' (MYYC 379, 199). Kal. *tsüügn̥* 'Teekanne' (Ramstedt 1935: 436).

    TurkiT *čāi-ğōš* 'Teekanne' (Le Coq 1910: 90). Bur. *čajúus*, ng. *jajúuṣ* 'Art kupfener Teekessel'; Kabuli-pers. *čaijōs* (Berger mss 53). Wakhi *čo(y)ǰuš* 'petite casserole pour faire bouillir le thé; bouilloire de cuivre' (Grünberg & Stéblin Kamensky 1988: 145).

There have been a good number of works dealing with the origin of *čoðïn, čuγun* and *čajγun*, but due to the above-mentioned reasons their explanations have not been convincing—partly they have been wrong. I will now give a short survey of the main opinions about the origin of the three words, followed by my own considerations.

    Räsänen (VEWT 113) distinguished between *čoj* < Chinese *zhu* 'cast metal, coint' and *čoðïn, čugun, čajγun* < Chinese *zhu* + *kang* 'steel'. Doerfer (TMEN #1149) commented on this etymology, showing that *čoj* is a secondary development of *čojïn* (< *čoðïn*). The suffix *-ïn* has been considered a 3. p. sg. acc. possessive suffix which was dropped. The same morphological development is visible in languages of the Volga region and Western Siberia, cf. e.g. Tat. *qurγaš(ïn)*, Bash. *qurγaš*, TatT *qorγaš* 'lead (metal)'. Furthermore Doerfer stated that the first part of *čoðïn* is *zhu*, but that the second part *-ðïn* can hardly be connected with Chinese *kang*. A similar view is taken by Menges (1983: 127). Doerfer tried to connect *čoðïn* with Chinese *zhujian* 'gegossenes Stück, Gießware'. He does not deal with *čoγun* but considers *čojγun* a contamination of *čoðïn* and *čoγun*. A thorough study dealing with all former works on the words *čoðïn, čuγun* and *čajγun* was undertaken by Paraškevov (1976), who clearly differentiated between *čoðïn* – *čuγan*, *čoγun* – *čojγun*. He connects these terms with the following Chinese words: *čoðïn* (> *čoyïn, čoy*) < Chinese *zhujian* or *zhutong*; *čuγan, čoγun*

(> *čuvan, čuan*) < Chinese *zhugang*; *čojɣun* = contamination of *čoðïn* and *čoɣun*.

In my opinion none of the mentioned etymologies is fully convincing. The three words have to be separated from each other and connected with three different Chinese words. *čoðïn* (> *čoyïn, čoy*), originally meaning 'bronze', is a loanword from Chinese *zhutong* (Mathews 1975[13]: 1372 + 6623) [YMCh *tṣ̌ȳ-tʰuŋʹ*; LMCh *tṣyâ-tə̂wŋ*; EMCh *t'uǎʰ-də̂wŋ* (Pulleyblank 1991: 415, 310)]. The meaning of *čuɣun* (> *čuvan, čuan*) was originally 'kettle, pot made of cast iron'. This is the primary meaning in Turkic languages; words with the meaning 'cast iron' are loanwords from Russian. The word is a loanword from Chinese *zhuguan* 'jar, pot made of cast iron' (Mathews 1975[13]: 1372 + 3574) [YMCh *tṣ̌ȳ-[kɔ̌ň]*; LMCh *tṣyâ-kuan*; EMCh *t'uǎʰ-kwanʰ* (Pulleyblank 1991: 415, 114)]. The last of the three word, *čojɣun*, meaning mainly 'teapot', is a recent loanword from Chinese *chaguan* 'tea-canister' (Mathews 1975[13]: 3574/5). The vocalism of this word may be influenced by *čuɣun*; on the other hand, *čai* 'tea' is sometimes pronounced *čoj*, cf. e.g. Weiers (1971: 168). With a different suffix, -*ɣuš*, *čojɣun* is attested in Uigur and in some East Iranian languages.

In Mongolian *čoðïn* is attested only in Kalmuk and Oirat. The morphological form *čö, čöi*, as well as the semantics 'cast iron, ore', point to the fact that the word is a loanword from some Altai-Turkic language. As the oldest known living places of the Oirat were in Southern Siberia—the Oirat started to move westwards at the beginnning of the 17th century—*čöi* may be a comparatively old loanword in Oirat. From a morphological point of view, the word could also be a loanword from some Tatar dialect of Western Siberia or the Volga region.

All five Turkic words for steel and cast iron are loanwords from Iranian—*qurč, čelik, bulat*—and Chinese—*gang, čoðïn*. This fact is not surprising when one considers the high standard of Persian steel and Chinese cast iron traditions. Only two of these words, *bulat* and *čoðïn*, have a wide distribution, being found since Middle Turkic times in nearly all Turkic languages. From Turkic, *čoðïn* spread further into Caucasian and East Iranian, *bulat* into Mongolian and Caucasian languages. Two words, *čelik* and *gang*, have a very small distribution, occurring only in languages living in a very close cultural relationship with the donor language. Chinese *gang*, however, has a wide distribution in Mongolian and Tungusic languages. *Qurč* had a large diffusion in Middle Turkic times; presently the word occurs only in South-East and

Volga Turkic languages. During the Middle Turkic period, *qurč* spread into Mongolian languages, where it has a compact and uniform distribution. No older, genuine Turkic words are known to me, with the exception of *qaraluγ*, which is attested in Old Russian sources and denotes some kind of steel. This situation is somehow surprising, as at least the Old Turks were famous ironsmiths, and one would expect at least some genuine Turkic words.

Distribution of the Turkic (Mongolian and Tungusic) words for 'steel' and 'cast iron'

	qurč(a)	čelik	bulat	gang	čoδïn	čoj	čuγun
Uig.	±		−				
UigS			+				
Krkh.	±				*		
Kip.	+		−				
Cum.	+				*		
Kar.	±*	+			±		
Gag.		+			±		
Otm.		+	+		+		
Tu.		+	+		+		−
Az.		+			+		+
Trkm.		+			+		
Chag.		+			+		+
Uzb.	+*	+			+		
Turki	+	+	+		+		−
Lop.		+			−		
Sar.				+			
Sal.				+			
Chuv.	±	+					+
Tat.	+	+			+		−
Bash.	+	+			+		
KrBl.	+	+			+		−
Kum.	−	+			+		
Nog.		+			+		
Kaz.	+	+			+		
Kkp.		+			+		
Kir.	+	+			+		
Altai-k.	−	+				+	

Tuba-k.	−	+			+	
Kmd.	−	+		+	+	
Leb.	−	+		+*		
Tel.	−	+			+*	
Khak.		+		+		+
Koi.		+			+	
Kam.		+				
Tuv.		+	+		+	
Yak.		+*				+
MMoM	−					
MMoS	−	±				
MoL	−	±	+			
Khal.	−	±	+			
Bur.	−	+	+			
Dag.		+	+			
Bar.	−	+	+			
Chr.	−	+	+			
Ord.	−	±	+			
Shr.	−		+			
OirD	−	+	+			
OirH	−	+	+			
Muo.	−		+			
San.			+			
Bao.			+			
Mgh.						
Oir.	−	±*			+	
Kal.	−	±*	+		±*	
Evn.						±*
Evk.		+	+			+
Orcn.			+			
Neg.			+			
Sol.			+			
Orc.			+			
Ude.			+			
Nan			+			+
Uch.			+			
Ult.						
Ma.			+			
Sibe			+			

qurč(a)	+ 'steel'	– 'sharp, keen'	* 'copper, bronze'
čelik	+ 'steel'		
bulat	+ 'steel'	– 'personal name'	* 'sword'
gang	+ 'steel'		
čoðïn	+ 'cast iron'	– 'kettle'	* 'ore, bronze'
čöj	+ 'cast iron'	– 'kettle'	* 'ore, bronze'
čuɣun	+ 'cast iron'	– 'kettle'	* 'ore, bronze'

Abbreviations

Indo-European languages

Arm.	Armenian	MP	Middle Persian
B	Buddhist texts	NArm.	New Armenian
Baj.	Bajui	Orm.	Ormuri
Bal.	Balochi	Oss.	Ossetic
Bat.	Batangi	Par.	Parachi
*Bur.	Burushaski	Psh.	Pashto
CArm.	Classical Armenian	Pers.	Persian
ENP	Early New Persian	Rsh.	Roshani
Ir.	Iranian	Shd.	Shahdara
Ish.	Ishkashmi	Skt.	Sanskrit
Khv.	Khovar	Sng.	Sanglechi
Klsh.	Kalasha	Sogd.	Sogdian
Kur.	Kurdish	Srk.	Sarikoli
KurA	Avroman dialect of Kurdish	Shug.	Shugni
KurS	Sorani dialect of Kurdish	Taj.	Tajik
KurT	Kurdish of Turkmenia	Yaz.	Yazgulami
M	Manichaean texts	Yid.	Yidgha
Mnj.	Munji	Z	Zoroastrian texts

East Asian languages

ACh	Ancient Chinese [Karlgren = EMCh]	Jap.	Japanese
ArCh	Archaic Chinese [Karlgren]	Kor.	Korean
Chin.	Chinese	LMCh	Late Middle Chinese [Pulleyblank]
Dun.	Dungan	Tib.	Tibetan
EMCh	Early Middle Chinese [Pulleyblank = ACh]	YMCh	Early Mandarin of the Yuan period [Pulleyblank]

Turkic languages

Az.	Azerbaijanian	Lop.	Lop-nor
Bash.	Bashkir	Nog.	Nogai
Chag.	Chagatai	Oit.	Oirot
Chuv.	Chuvash	Otm.	Ottoman Turkish
Cum.	Cuman	Sag.	Sagai
Dol.	Dolgan	Sal.	Salar
Gag.	Gagauz	SalA	Altiyuli dialect of Salar
Kam.	Kamass	Sar.	Sari Uigur (S-Yugur)
Kar.	Karaim	Soy.	Soyot
KarH	Lodz-Galician dialect of Karaim	Tai.	Taighi
KarK	Krim dialect of Karaim	Tar.	Taranchi
KarT	Troki dialect of Karaim	Tat.	Tatar
Kaz.	Kazak	TatET	Tatar of Eastern Turkestan
Khak.	Khakas	TatK	Küärik dialect of Tatar
Kip.	Kipchak	TatT	Tobol dialect of Tatar
Kir.	Kirghiz	TatTm	Tyumen dialect of Tatar
Kkp.	Karakalpak	Tel.	Telenghit
Kmd.	Kumandi	Trkm.	Turkmen
Koi.	Koibal	Tu.	Turkish
KoiK	Kandov dialect of Koibal	TuK	Krim dialect of Turkish
*Kot.	Kottic	TurkiK	Turki of Kara-Khoja
*KotAr	Arinian dialect of Kottic	TurkiKh	Turki of Khotan
*KotAs	Assanian dialect of Kottic	TurkiT	Turki of Turfan
KrBl.	Karachai-Balkar	Tuv.	Tuvinian
Krg.	Karagas (Tofa)	Uig.	Uigur
Krkh.	Karakhanid	UigS	Uigur in Chinese characters
Kum.	Kumyk	Uzb.	Uzbek
Kyz.	Kyzyl	UzbB	Uzbek of Bukhara
Leb.	Lebed	Yak.	Yakut

Tungusic languages

Evk.	Evenki (Tungus)	Orc.	Oroch
EwkIM	Evenki of Inner Mongolia	Orcn.	Orochen (Elunchun)
EwkM	Evenki of Manchuria	Sol.	Solon
Evn.	Even (Lamut)	SolO	Ongkor Solon
*Ghil.	Ghilyak (Nivkh)	Uch.	Ulcha
Ma.	Manchu	Ude.	Udeghe (Udehe)
Nan.	Nanai (Gold, Hejen)	Ult.	Ulta (Orok, Uilta)
Neg.	Neghidal		

Mongolian languages

Bao.	Baoan	Khal.	Khalkha
Bar.	Barin	Khrn.	Kharchin
Bur.	Buriat	Mgh.	Moghol
BurB	Bargu-Buriat	MMoM	Middle Mongolian of the Secret History
BurH	Hori dialect of Buriat	MMoS	Middle Mongolian in Chinese characters
BurIM	Buriat of Inner Mongolia	MMoU	Middle Mongolian in Uigur script
BurN	Nizhneudin dialect of Buriat	MoL	Classical Mongolian (Written Mongolian)
BurS	Selenghe dialect of Buriat	Muo.	Monguor
BurT	Tünhe dialect of Buriat	MuoM	Minhe dialect of Monguor
Chr.	Chakhar	Oir.	Oirat
ChrD	Darhan, western dialect of Chakhar	OirD	Oirat of the Köke nur, Dulan dialect
ChrS	Sünid, central dialect of Chakhar	OirE	Ejine dialect of Oirat (Alashan-Oirat)
ChrÜ	Üjümüchin, eastern dialect of Chakhar	OirH	Oirat of the Köke nur, Hejing dialect
ChrZ	Zhenglan dialect of Chakhar	Ord.	Ordos
Dag.	Dagur	OrdO	Otog dialect of Ordos (Southern Ordos)
DagET	Dagur of East Turkestan	San.	Santa
Kal.	Kalmuk	Shr.	Shera Yogur

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The order of nominalizations in Turkish

Gerjan van Schaaik

Verbs of Turkish nominalize in a number of ways. On the syntactic level nominalization occurs when a clause is embedded as a Sentential Object (or Subject), thereby allowing for the expression of tense using the values [+future] *(-(y)EcEk)* and [–future] *(-DIK)*. At this level a further distinction can be made between the expression of "fact" versus "act", signalled by one of the aforementioned tense markers or the deverbalizing morpheme *-mE* respectively. The possibility to express this distinction is lexically determined: Verdictive verbs express facts only, remissive, conative, and exercitive verbs express acts only, whereas the choice of the suffix determines what is expressed in the group of expositives, apprehensives, putatives verbs. For emotive verbs there is no difference in meaning. In this paper, syntactic nominalization is opposed to the derivational nominalization of the verbal noun in *-(y)Iş*. Such verbal nouns are the product of a predicate formation rule, by means of which the number of arguments is (partially) reduced.

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Introduction

In this paper I will present a survey of several nominalization processes found in Turkish. The presentation and discussion of the data[1] will be based on the (apparently, not universally accepted) insight that, with

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[1] The discussion of the phenomena focuses only on nominalizations of verbs in object position. Although, roughly speaking, various nominalized verbs may also occur in subject position such constructions should be studied against the background of the type of predicate they are the subject of. Since the present analysis deals with verbal predicates of the main clause only, nominalized subjects of verbal, nominal, and adjectival predicates or those combined with a postposition should be considered a topic for further research.

respect to the distribution of Turkish nominalization suffixes, a sharp distinction should be made between nominalizations that take place on a syntactic level and those that must be regarded as the result of morphological derivation.

As for the former type of formations, a number of recent publications (George & Kornfilt 1981; Kennelly 1987; Kural 1993) focus primarily on the question as to how clauses containing an embedded verb in *-DIK / -(y)EcEK*[2] or *-mE* are related to the general principles put forward within the (predominantly) syntactic approach of "generative grammar" (GB). Thereby these constructions are classified as "gerunds" and the two suffixes are analysed in terms of "tensed" versus "infinitive", respectively. In this respect such a classification very much resembles that of Underhill (1972), who calls these verbal forms "gerundives". In George & Kornfilt (1981) and Kennelly (1987) no attention has been given to the nominalizer *-(y)Iş*[3] at all, but Kural (1993), who claims to provide an alternative classification, opposes the "tensed" *-DIK / -(y)EcEK* and the "infinitive" *-mE* to the "gerundive" *-(y)Iş*, which in turn is identical with Underhill's "deverbal noun". A somewhat different terminology is used by Pamir (1995), who divides "gerunds" into "action nominals (verbal noun)" and "factive nominals (nominalization)", corresponding to the forms in *-DIK / -(y)EcEK* or *-mE* respectively.

As will be shown in this paper, yet another (re-)classification of the various types of Turkish nominalizations is possible. This will not be achieved, however, by reshuffling the categories mentioned above on the basis of some syntactic principle, but rather by trying to find out which semantic notions and which morphological processes may be relevant for an accurate description of the data. It will be shown that the type of nominalization (choice of the suffix between *-DIK / -(y)EcEK* or *-mE*) is related to the question 1) how the matrix verb is lexically specified for the type ("order") of linguistic expressions that can be taken as a sentential object, and in a number of cases 2) what the intended status of the embedded verb is: "fact" or "act". Furthermore, it will be advanced that formations in *-(y)Iş* can be considered the result of a morphological

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[2] Morphemes are partially represented by cover symbols which are all phonologically conditioned: *D* stands for *t / d*; *I* for *i, ı, ü, u*; *K* for *k / ğ*; and *E* for *e / a*.

[3] *y* after a root ending in a vowel.

derivation process, and that such forms may easily end up as a lexical item.

The paper consists of three main parts: In section 1 some theoretical background information about the notion of "order" is provided; section 2 deals with the distribution of nominalizers that are applied on the syntactic level (*-DIK* / *-(y)EcEK* in 2.1 and *-mE* in 2.2), and of those that can only be found on the morphological level (*-(y)Iş* in 2.2.

Especially concerning the status of *(-y)Iş*, some morphological and statistical arguments will be presented in favour of Underhill's classification as "deverbal noun". Finally, section 3 presents a summary of the most frequent types of formations that are (presumably) lexicalized.

1. On the notion of order

As will often be observed, not only words or constituents referring to "objects" can occur as the grammatical complement of some verbs, but also constituents that refer to an "act" or a "fact". In Vendler (1972) a classification of verbs of English is presented in which the content of (objects of) performative verbs (such as *say, state,* and the like) is compared to that of verbs expressing their mental counterparts, that is, verbs that denote a mental act (such as *notice, find out*) or a mental state (such as *know, think, believe*). The common denominator within this classification is that these verbs (basically) express propositions (facts). It is this classification which has functioned as a guideline for the present analysis, both because it provides some terminology as well as because of the insight that facts are, roughly speaking, mostly about acts. Therefore, I felt safe in assuming that most verbs that can be used to convey some fact, can also be used to express an act (but not reversely).

Previous work by Vendler (1967) has had some impact on the development of the linguistic framework of Functional Grammar (henceforth FG), especially with respect to the notion of "entity order". For the description of linguistic expressions FG (cf. Dik 1989; Hengeveld 1989; Siewierska 1991) has adopted a multilevel hierarchy, in which each level is the domain of a specific linguistic entity: Within a speech act (E), a propositional content (X) is communicated, which in turn describes a certain state of affairs (e), in which one or more individuals (x) are involved. This hierarchy can be understood as a system of building blocks (structural units) and on each level (or layer) a certain type of entity is construed. On the highest level the speech act, a fourth-order entity, is represented, the linguistic expression of which is the clause:

The actual utterance. This clause contains a proposition, a third-order entity, which can be considered as a "Possible Fact" (cf. Dik 1989: 248). A typical property of third-order entities is that they can be "conveyed" by verbs such as *say, mention, state, claim* and the like, and they can be the subject of belief, knowledge, thought, and recollection, which is expressed by verbs such as *believe, know, think,* and *remember.* Furthermore, Possible Facts (propositions) can be evaluated in terms of truth values. Propositions are built up by predications, second-order entities, which describe a certain state of affairs (or "event", cf. Dik 1989: 248). This type of entities can be said to *occur, take place, begin, last,* and *end,* and they can be perceived: *seen, watched, felt, heard,* etc.

As will become clear in the sections below, linguistic expressions (*in casu:* Embedded clauses) in Turkish that refer to a fact (proposition—third-order entity) may be differently structured than those that refer to an act (event—second-order entity). These differences are assumed to be lexically specified for verbs that can take an embedded clause as an object.

In terms of generative aspects, the notion of entity order is not only relevant for linguistic expressions that are "under construction", but also lexical material other than verbs can be assumed to be specified for "order". In this way it can be explained, for instance, that some words can be combined with temporal expressions, whereas others cannot. Consider the following classic example:

(1) a *Toplantı saat iki-de   başla-yacak*
        meeting   hour two-LOC start-FUT
        'The meeting will start at two o' clock.'

    b *Masa saat iki-de   başla-yacak*
        table hour two-LOC start-FUT
        'The table will start at two o'clock.'

Since *toplantı* 'meeting' in 1a can be considered as a word that denotes an "event", it must be assumed that it is lexically specified as a second-order nominal (e), in contrast to *masa* 'table' in 1b, which will be specified as denoting a first-order entity (x).

As this brief description of "order" of linguistic entities hopefully suffices for the understanding of the analysis to be presented here, no

further attention will be given to the internal structure of constituting elements within the multilevel hierarchy.

2. The distribution of nominalizers

In section 2.1. the morphemes *-DIK*[4] and *-mE* will be discussed and it will be shown that these morphemes are distributed over four classes of matrix verbs:

1) verbs that take complements in *-DIK* and which express a *fact* only;
2) verbs that take complements in both *-DIK* and *-mE* fall into two subgroups:
   a) the expression of *-DIK* or *-mE* leads to differences in meaning: In the case of *-DIK* a *fact*, and in the case of *-mE* an *act* is expressed;
   b) the expression of *-DIK* or *-mE* does not lead to differences in meaning;
3) verbs that take complements in *-mE* and which express an *act* only;
4) verbs that take complements in *-mE* and which lead to an imperative meaning.

In section 2.2. it will be claimed that, contrary to the case of *-DIK* and *-mE*, the occurrence of the morpheme *-(y)Iş* cannot be accounted for on a syntactic level, and therefore, an analysis in terms of morphological derivation will be proposed. I will argue that deverbal nouns carrying this suffix have a reduced argument structure, and the fact that verb forms in *-(y)Iş* have some (but definitely not all) verbal properties (when contrasted with nominalizations to be discussed in section 2.3.) will be explained in terms of a one-place nominal predicate (for subjects) or a taking of refuge to nominal compounding (for objects).

A general characteristic of "V in head function" is that it "requires nominalization" (cf. Dik 1989: 64). This is what we typically see in dealing with embedded clauses in Turkish. Before going into detail on the essential matters, let me by way of an introduction give some examples of embedded clauses and explain the most important morphological features of this type of constructions. Consider the following sentences:

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[4] For the sake of convenience, from this point onwards reference to *-DIK* includes reference to *-(y)EcEK*.

(2) a *Murat-ın   ses-in-i   duy-du-m*
    Murat-GEN   voice-P3s-ACC   hear-PAST-1s
    'I heard Murat's voice.'

  b *Murat-ın   öksür-düğ-ün-ü   duy-du-m*
    Murat-GEN cough-DIK-P3s-ACC   hear-PAST-1s
    'I heard that Murat coughs / coughed.'

The object of *duy* 'hear' in 2a is an NP: The modifier *Murat* (possessor) takes the genitive marker *-(n)In*,[5] in this way expressing subject-verb agreement and the head noun *ses* 'voice' takes the possessive suffix *-(s)I(n)*,[6] which agrees in person with the possessor noun. And thus, due to the aforementioned "nominalization requirement", the embedded verb in 2b takes the shape of the NP exemplified in 2a. In 2b, too, subject-verb agreement is expressed by the genitive suffix, and person agreement by possessive concord, by means of *-(s)I(n)*, which follows the nominalizer *-DIK*.

2.1. The morphemes *-DIK* and *-mE*
That differences in order play an important role in the choice between the nominalization suffixes *-DIK* and *-mE* can be demonstrated on the basis of the verb *gör-* 'see', which can be classified as a verb denoting "uncontrolled"[7] perception. Consider the following examples of such usage:

(3) a *Murat, Berna-nın   ev-den   çık-tığ-ın-ı   gör-dü*
    Murat   Berna-GEN house-ABL leave-DIK-P3s-ACC see-PAST
    'Murat saw that Berna (has) left the house.'

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[5] *n* after a vowel.

[6] *s* after a vowel; *n* before a suffix.

[7] By "uncontrolled" I mean that the subject of 'see' has no power to determine whether (s)he will see or not, other than by closing the eyes or by 'not looking'. In that respect 'look' is a "controlled" verb.

b *Murat,   Berna-nın   ev-den   çık-ma-sın-ı   gör-dü*
Murat   Berna-GEN house-ABL leave-mE-P3s-ACC see-PAST
'Murat saw that Berna was leaving the house.' (= 'M. saw B. leaving
the house.')

The difference in the type of nominalization between 3a and 3b—as
reflected by the occurrence of the suffix *-DIK* versus *-mE*, and accord-
ingly, the differences in meaning between both sentences—can be as-
cribed to differences in order of the embedded structures.

In 3a it is a *fact* (= proposition) that is expressed by the expression
based on *Berna-nın ev-den çık-*, whereas the same underlying structure
expresses an *event* (= state of affairs) in 3b. These differences are com-
monly explained by saying that 3a is "factive" and that by 3b an "act" is
being described. Indeed, "fact" versus "act" sheds some light on Kural's
(1993: 3) distinction between "past" for *-DIK* and "infinitive" for *-mE*,
as opposed to "gerundives" and "gerunds" as found in Underhill (1972)
and George & Kornfilt (1981).

The morpheme *-DIK*, expressing the tense value [–future], can be
contrasted with the suffix *-(y)EcEK* for [+future], as exemplified by 4,
where the "uncontrolled" perception verb *duy-* 'hear' is replaced by *gör-*
'see' of 3:

(4) a *Murat,   Berna-nın   ev-den   çık-tığ-ın-ı   duy-du*
    Murat   Berna-GEN house-ABL leave-[+fut]-P3s-ACC hear-PAST
    'Murat heard that Berna (has) left the house.'

   b *Murat,   Berna-nın   ev-den   çık-acağ-ın-ı   duy-du*
    Murat   Berna-GEN house-ABL leave-[–fut]-P3s-ACC hear-PAST
    'Murat heard that Berna will leave the house.'

The sentential objects of both 4a and 4b express factivity, the only dif-
ference being that what is expressed as a (possible) fact, 'Berna's leav-
ing the house', is located in time in different ways over 4a and 4b in
relation to the tense of the matrix verb *duy-* 'hear'.

For 3b, however, such an opposition is impossible since the temporal
aspects of the embedded verb *çık-* 'leave' are "enclosed" by those of the
verb in the main clause: The temporal location of *çık-* is determined by
that of *gör-* 'see'. Thus, the suffix *-mE* may be termed "infinitive" in the
sense of (non-factive) "a-temporal". The reason that the terms "ger-

undives" and "gerunds" are used by some authors is possibly due to the striking correspondence (in translation) with the gerunds[8] of English.

The examples presented in 3 and 4 all have one thing in common: The verb of the main clause is a verb of "uncontrolled" perception. These have been presented more or less deliberately because both *gör-* 'see' and *duy-* 'hear' allow for complements in *-DIK* as well as in *-mE*, whereas their "controlled" counterparts *seyret-* 'watch' or *izle-* 'watch' and *dinle-* 'listen' may take (are subcategorized for or lexically specified for) nominalizations in *-mE* only. Consider:

(5) a *Murat'ın   tenis   oyna-ma-sın-ı   seyret-ti-m / izle-di-m*[9]
       Murat-GEN tennis play-mE-p3s-ACC watch-PAST-1s
       'I watched Murat playing tennis.'
       (= 'I watched how Murat played tennis.')

   b *Murat'ın   piyano çal-ma-sın-ı   dinle-di-m*
      Murat-GEN piano   play-mE-p3s-ACC hear-PAST-1s
      'I heard (listened to) Murat playing the piano.'

These differences in meaning between a fact-nominalization and an event-nominalization are also found in other categories of verbs. Performatives (verbs of saying) such as *söyle-* 'say', *bildir-* 'announce',

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[8] Apparently this is the case in Kural (1993: 3), who terms the nominalized forms based on *-(y)Iş* "true gerundive, equivalent to English *-ing*".

[9] The "controlled" verb *bak-* 'look', requiring the dative suffix, would be inappropriate here, due to semantic differences with *seyret-* or *izle-* 'watch'. This can be inferred by comparing (5a) with the following:

   (i) *Murat-ın   tenis oyna-ma-sın-a   bak-tı-m*
       Murat-GEN tennis play-mE-P3s-DAT   look-PAST-1s
       'I (critically) observed how Murat played tennis.
       (< > I observed Murat playing tennis.)'

Contrary to 5a, in (i) *how* has the connotation of "manner".

açıkla- 'declare', for instance, are to be interpreted as 'expositive'[10] (describing a fact) when used with *-DIK* in the embedded clause, but as 'exercitive' (expressing a directive, or "indirect imperative") when used with *-mE*. This can be illustrated by the following:

(6) a *Murat,   Berna-nın   ev-den   çık-tığ-ın-ı   söyle-di*
     Murat   Berna-GEN house-ABL leave-DIK-P3s-ACC say-PAST
     'Murat said that Berna (has) left the house.'

  b *Murat,   Berna-nın   ev-den   çık-ma-sın-ı   söyle-di*
     Murat   Berna-GEN house-ABL leave-mE-P3s-ACC say-PAST
     'Murat said that Berna has (had) to leave the house.'

Constructions as those in 6 can be compared to "real" exercitive verbs like *emret-* 'order' or *buyur-* 'order' (both expressing a command), but these take only embedded forms in *-mE*. In that sense *söyle-* 'say' in 6b has the same illocutionary effect as the main verbs in 7:

(7) a *Hizmetçi-ye   beş   dakika-da   hazırlan-ma-sın-ı   buyur-du*
     servant-DAT five   minute-LOC get ready-mE-P3s-ACC order-PAST
     '(S)he ordered the servant to get ready in five minutes.'

  b *Kaptan-ımız   top-lar-ın   hazırla-n-ma-sın-ı   emret-ti*
     captain-P1p gun-Pl-GEN prepare-PASS-mE-P3s-ACC order-PAST
     'Our captain ordered that the guns be prepared'

Similar differences in meaning, due to the application of either *-DIK* or *-mE*, are found among 'apprehensive' verbs such as *anla-* 'understand', *keşfet-* 'discover', *farket-* 'notice', and 'putatives' such as *bil-* 'know', *hatırla-* 'remember', *inan-* 'believe' (cf. Özsoy 1996). The latter two classes of verbs exhibit another interesting phenomenon: Whereas apprehensive and putative verbs express facts when used in combination with *-DIK*, nominalizations realized by means of the suffix *-mE* express an act which has in the background a shade of meaning that either refers

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[10] In order to label verbs according to the type of proposition they basically express, I use Vendler's terminology (1972). These labels will be represented in single quotation marks.

to the "reason" (using an apprehensive verb) or to the "manner" (using a
putative verb) in which that act is performed. Consider:

(8) a *Hasan-ın   git-me-sin-i   anlı-yor-uz*
       Hasan-GEN go-mE-P3s-ACC   understand-PRES-1P
       'We understand *why* Hasan has gone.'

(8) b *O,   kazan-dığ-ı   para-yı ye-me-sin-i bil-mi-yor*
       (s)he earn-PRT-P3s money   eat-mE-P3s know-NEG-PRES
       '(S)he doesn't know *how* to spend the money (s)he earns.'

In the data presented so far we have dealt with verbs of perception (*gör-,
izle-*), performatives (*söyle-*), apprehensives (*anla-, farket-*) and puta-
tives (*bil-, hatırla-*), which all can take either a complement in *-DIK* or
-mE, resulting in two different interpretations: Fact versus act.

There are verbs ('emotives'), however, which can take embedded
clauses with either suffix without resulting in differences in meaning.
An example is represented in 9:

(9) a *Murat, Berna-nın   ev-den   çık-tığ-ın-a   üzül-dü*
       Murat   Berna-GEN house-ABL leave-DIK-P3s-DAT regret-PAST
       'Murat regretted that Berna (has) left the house.'

    b *Murat Berna-nın   ev-den   çık-ma-sın-a   üzül-dü*
       Murat Berna-GEN house-ABL leave-mE-P3s-DAT regret-PAST
       'Murat regretted that Berna (has) left the house.'

There is another, considerable large group of verbs consisting of
'remissives' (such as *affet-* 'pardon') as well as of 'conatives' (such as
iste- 'want', *planla-* 'plan') which may take only embedded verbs in
-mE. The latter type can be regarded as "pure infinitives", due to the fact
that they denote "possible future events" rather than "realized events"
(facts), as shown in 10.

(10) *Berna, Murat'ın   ev-den   çık-ma-sın-ı   iste-di*
        Berna Murat-GEN house-ABL leave-mE-P3s-ACC want-PAST
        'Berna wanted Murat to leave the house.'

Finally, a relatively small class of 'verdictives' (*san-* 'think / believe', *zannet-* 'think / believe') can take complements in *-DIK* but not in *-mE*:

(11) *Berna, Murat-ın   bütün viski-yi   iç-tiğ-in-i   san-ıyor*[11]
      Berna Murat-GEN all   whiskey-ACC drink-DIK-P3s believe-PRES
      'Berna thinks / believes (takes it as a fact) that Murat drank
      all the whisky.'

These observations can be summarized as follows. According to the type of verb of the main clause, the verb of the embedded clause is nominalized in different ways. The distribution of oppositions according to the different types of verbs of Turkish is tabulated below:

verb type	verb	*-DIK / -(y)EcEK*	*-mE*	illocution
verdictive	*san-*	+	–	fact
	zannet-	+	–	
expositive	*söyle-*	+	+	fact versus act ("imperative")
	açıkla-	+	+	
apprehensive	*anla-*	+	+	fact versus act ("reason")
	inan-	+	+	
putative	*bil-*	+	+	fact versus act ("manner")
	hatırla-	+	+	
emotive	*üzül-*	+	+	no difference in meaning
	kız-	+	+	
remissive	*affet-*	–	+	act
	beğen-	–	+	
conative	*iste-*	–	+	act
	planla-	–	+	
exercitive	*emret-*	–	+	act ("imperative")
	buyur-	–	+	

[11] An alternative expression is '*Berna, Murat-ı [bütün viski-yi iç-ti-(3s)] san-ıyor*' where Murat is the direct object of the matrix verb. For studies that investigate the raising phenomena of Turkish in more detail, see Brendemoen & Csató (1986); George & Kornfilt (1981); Kennelly (1987); Kural (1993); and Pamir (1995).

The constructions discussed here are all clauses based on a transitive main verb, the direct object (second argument) of which is a clause itself (a sentential object).[12] Since the embedded verb is not used in head-function of the main clause, the embedded predication cannot be expressed as a sentence, so the verb must nominalize and the embedded predication takes the shape of a noun phrase. Thus, the subject is expressed with the genitive case marker, the embedded verb stem takes a nominalizer, subject-verb agreement is realized by a possessive suffix, an expression of tense is possible. Therefore, this type of nominalization was referred to as "syntactic" nominalization. At this level there are two types of nominalization, each with different types of nominalizers. The occurrence of either one of these is related to the lexically given properties of the (transitive) verb of the main clause, and it is these properties which primarily determine what kind of sentential objects (facts or acts) can be expressed. This lexical specification can be formalized in terms of "sub-categorization" or "selection restrictions". This information, then, would among other things reveal or predict that a "verdictive" verb such as *zannet-* 'think / believe' takes third-order complements only (always with fact-reading); that "expositive" verbs such as *söyle-* 'say / tell' may take both third- (cf. 6a—about a fact) and second-order objects (cf. 6b—about an event), and that "remissive" verbs such as *beğen-* 'like' are not specified for facts but only for events (and for first-order entities, 'things', as in *Viski-yi beğenmedi* 'He didn't like the whisky'). Also for verbs of perception (and possibly for some other types as well) we may even assume that they are specified for three orders: They may take objects referring to facts (cf. 3a), events (cf. 3b), and things, as in *Murat Berna'yı bir daha görmedi* 'Murat didn't see Berna any more'.

To be more specific with respect to the lexical "coding" of these properties, the second argument of transitive verbs could be specified for the type of objects by including a term variable that specifies its order. Disregarding the semantic functions of the first and second arguments, we would get the following types of categorization: *san-* (x) (X) 'think', where "X" specifies objects referring to a propositon (fact); *söyle-* (x)

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[12] To a great extent the properties of sentential objects can be ascribed to sentential subjects too, and similarly, the selection restrictions determining the type of nominalization are lexically coded for each predicate that can take sentential subjects. For further comments, see footnote 1.

(X, e) 'say / tell', with "X" for propositions and "e" for events; *üzül-* (x) (X / e) 'regret' with "X / e" indicating that there is no opposition between facts and acts; *beğen-* (x) (e, x) 'like' with "e" for events and "x" for things; and finally, *gör-* (x) (X, e, x) 'see', for which it is specified that terms referring to facts, events, and things can be expressed as the object of the verb of the main clause.

On the morphological level, the opposition between third and second order is expressed by means of suffixes: [–future] facts are signalled by *-DIK*, [+future] facts by the suffix *-(y)EcEK*, and events by *-mE*.

2.2. The morpheme *-(y)Iş*

Whereas in George & Kornfilt (1981) and Kennelly (1987) only the syntactic behaviour of the suffixes *-DIK* and *-mE* is treated, Kural (1993) makes an attempt to analyse the usage of *-(y)Iş* by contrasting it with *-DIK*. Along the lines of Kural's approach, such an opposition could be exemplified by the following pair of constructions:

(12) a *Murat,   Berna-yı   öp-tüğ-ün-ü   hep   unut-uyor*
         Murat   Berna-ACC kiss-DIK-P3s-ACC   always   forget-PRES
         'Murat always forgets that he kissed Berna.'

      b *Murat,   Berna-yı   öp-üş-ün-ü   hep   unut-uyor*
         Murat   Berna-ACC kiss-(y)Iş-P3s-ACC always   forget-PRES
         'Murat always forgets kissing (= how he kissed) Berna.'

Kural (1993: 10, 14) claims that the differences between 12a and 12b can be accounted for by saying that 12a expresses the fact that 'Murat kissed Berna' is forgotten, whereas 12b is about the event (act) itself. As an old saying goes, however, appearances are deceptive, so two remarks are in place. Firstly, presenting these data in the fashion practiced here might easily suggest that 12a and 12b are syntactically equivalent, since the objects of the embedded verb have the accusative marker and both nominalized verbs carry comparable morphological material: A nominalizer plus a possessive suffix followed by an accusative. I will return to this matter shortly.

Secondly, in discussing the relation between *-DIK* and *-(y)Iş*, Kural (1993: 14) explains for 12a that 'he forgets that the kissing event ever happened', and in analysing the opposition between the suffixes *-mE* and *-(y)Iş* he states (Kural 1993: 10) for 12b that 'he always forgets a

certain instance of kissing Berna'. His description of 12a may indeed be paraphrased by saying that 'he (= Murat) does not remember the fact that he kissed Berna', that is, 'he (= Murat) does not know whether he kissed Berna or not'.

As for the interpretation of 12b, I think that Kural touches on a point which is very crucial for the way some of the verbal forms in *-(y)Iş* should be understood. The point is that the "act" or "event" described in 12b is indeed "a certain instance" (in Kural's words), but more specifically, it is *a single instance* of kissing Berna that is referred to. He seems to be somewhat puzzled, however, with *-(y)Iş*, since a comment made later on 12b is quite contradictory to the one quoted here. In his second comment he states: "He may remember that the kissing event occurred, but have no memory how it happened or how it felt". In my opinion this is a description that would fit a fact, but not a single instance of an act where 12b is actually about: 'Murat always forgets *how* he kissed Berna', in which the word 'how' does not refer to "manner" but to that "single instance" as such. Furthermore, contrary to what has been claimed by Kural (1993: 6) verbs in *-(y)Iş* cannot be modified for frequency adverbs as they denote a "single instance" of an event 13a, although his own example 13b might suggest the opposite. Consider:

(13) a *Murat,   Berna-yı   (* sık sık)*
        Murat   Berna-ACC often

        öp-üş-ün-ü   hep   unut-uyor
        kiss-(y)Iş-P3s-ACC   always   forget-PRES
        'Murat always forgets often kissing (= how he often kissed) Berna.'

     b ?bu ülke-de   bebek-ler-in   sık sık   öl-üş-ü
        this country-LOC baby-PL-GEN   frequently die-(y)Iş-P3s
        'babies frequently dying in this country'

Apart from the question as to whether the fragment of Turkish in 13b is grammatical at all, the frequency adverb *sık sık* 'often' is not modifying

ölüş in the sense of 'repetitive dying' of (particular) babies,[13] but should rather be understood as an adverb that pertains to the occurrence 'babies die in this country', namely that 'it frequently occurs that babies die in this country'. Most of my informants reject 13b and suggest that it would become more grammatical if the adverb *sık sık* 'often' were "moved" to the position directly after *bu ülkede* 'in this country', e.g. *Bu ülkede sık sık bebeklerin ölüşü*.

A more fundamental issue, however, is related to the observation that there are apparently two verb forms that make reference to an "act" as opposed to "fact": Besides verb forms having the suffix *-(y)Iş,* there are forms in *-mE* that can be used for the same type of reference. As we have seen in section 2.1., there are several verb classes of Turkish which are lexically specified (categorized) for the type of verbal complement they can take: Some of them can take only complements denoting a fact (signalled by the suffix *-DIK*), others may only take complements expressing an event (expressed by the suffix *-mE*), and additionally, there is a considerably large class of verbs that allow for the expression of both morphemes. With the exception of the class of 'emotives', they all differentiate between fact or event, depending on the nominalizing suffix being applied.

Now, given this system in which each verb is categorized for the type of complement, and which thereby allows for a grammatical differentiation between facts and events, isn't it at least remarkable that there seems to exist a third morpheme that expresses an act rather than a fact? And in connection with this, we might reformulate the question as: Are the forms in *-mE* and *-(y)Iş* equivalent or perhaps complementary, that is, are there any verbs that categorize for *-(y)Iş* but not for *-mE*? In seeking an answer to the latter question, we can observe that using verbs like *hatırla-* 'remember' and *unut-* 'forget' does not give any clear indication, in terms of entity order, of the type of complement that can be expected, since in principle any type of entity is possible: We may remember or forget facts and events, but also things (referred to by first-order entities). So both nominalizations in *-DIK* and *-mE* as well as other complements may be expected, and thus, the notion as such of categorization

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[13] If they could do so they might even be able not to do so, and most probably they wouldn't do so, unless 'die' has another meaning here than what is generally agreed upon.

for the type of complement in this case does not seem to have any rele-vance.

An alternative approach is to reconsider the problem in terms of the question as to whether all three morphemes can be compared with one another on the same (syntactic) level. Although this seems to be the case on the basis of 12 and 14, we can simultaneously observe that the only verbs that allow for such an opposition are *hatırla-* 'remember' and *unut-* 'forget', as we have commented upon above. The full range of possibili-ties for the expression of an event with *unut-* 'forget' and likewise, with *hatırla-* 'remember', is represented in 14 and 15. Consider:

(14) a *Murat, Berna-yı   öp-me-yi   unut-ma-dı*
        Murat   Berna-ACC kiss-mE-ACC forget-NEG-PAST
        'Murat has not forgotten to kiss Berna.'

      b *Murat, Ali-nin   Berna-yı   öp-me-sin-i   unut-ma-dı*
        Murat   Ali-GEN Berna-ACC kiss-mE-P3sACC forget-NEG-PAST
        'Murat has not forgotten how Ali kissed Berna.'

Due to the fact that the subject of 14a is co-referential with the subject of the matrix verb, it yields the interpretation of a future event ("non-real-ized", "infinitival"), whereas that of 14b does not. The embedded clause of 14a is about Murat's *own* (future) event of kissing Berna, but 14b is about a (realized) event in which *Ali* and Berna were involved. The single event reading for its parallel form in *-(y)Iş* seems, in terms of "laboratory circumstances", equally well formed, although expanding 15a with adverbial expressions for time and frequency leads to an in-creasing sense of reluctance with respect to acceptability, as is shown in 15b. For 15b two alternatives are available: When reference is made to an event the suffix *-mE* must be used, and in case reference is made to a fact, very much expectedly, the morpheme *-DIK* will occur. These are represented by 15c and 15d respectively:

(15) a *Murat, Ali-nin Berna-yı   öp-üş-ün-ü   unut-ma-dı.*
        Murat, Ali-GEN Berna-ACC kiss-mE-P3sACC forget-NEG-PAST
        'Murat has not forgotten how Ali kissed Berna.'

b *Murat, Ali-nin   **o akşam**   Berna-yı
Murat,   Ali-GEN   that evening   Berna-ACC

sürekli   öp-üş-ün-ü   unut-ma-dı.
constantly   kiss-mE-P3sACC   forget-NEG-PAST
'Murat has not forgotten how Ali constantly
kissed Berna that evening.'

c Murat, Ali-nin o akşam Berna-yı sürekli **öp-me-sin-i** unutma-dı.
'Murat has not forgotten how Ali constantly kissed Berna that evening.'

d Murat, Ali-nin o akşam Berna-yı sürekli **öp-tüğ-ün-ü** unutma-dı.
'Murat has not forgotten that Ali constantly kissed Berna that evening'

The fact that expansion with adverbs in embedded clauses based on the -(y)Iş forms leads to a lesser degree of acceptability may be taken as an indication that those embedded verbs are to a certain extent "less verbal" than their -DIK and -mE counterparts, and moreover, it may very well indicate, too, that the formation of -(y)Iş forms cannot be dealt with on a syntactic level. If this view is correct, it would not only imply that these forms should not be syntactically compared to forms in -DIK or -mE, but also that an alternative for the formation of forms in -(y)Iş should be proposed.

This is corroborated by the statistics we obtained by looking at the distribution of the *actual* occurrence of -(y)Iş forms in a body of coherent utterances, that is, by taking into account how they are used in the production of spoken and written Turkish. In order to get some statistical insight into their actual usage, a series of machine readable texts (based on literature, news bulletins, interviews, spontaneous speech production, etc.) was investigated for the degree in which -(y)Iş forms are combined with (embedded) subjects, direct objects, indirect objects, and adverbs. The table in 16 shows how these constituents are distributed in terms of percentages, related to a total number of 88 different verb stems.

(16)   subject   38%   adverbial   10%
       direct object   0%   "bare" noun   25%
       indirect object 11%   compound   25%

The criteria for the determination of the syntactic category of these constituents are as follows. In a broad sense, all forms in -(y)Iş are nominalized and occur as the subject, object or some other constituent of the matrix clause, so they occur as zero marked (subject), they can have the accusative marker (direct object) or some other case marker, depending on the type of constituent they represent. Thus, these distinctions play no role in the distribution represented in 16. In a narrow sense, however, the -(y)Iş forms are the (presupposed) "head" of the embedded clause and they may take the same type of constituents as mentioned above. Embedded subjects always have the genitive marker, and thus, constituents having the genitive marker are taken to be the subject of the embedded verb. Constituents preceding the embedded verb and carrying the accusative suffix are considered to be the direct object of the embedded verb, and those having other case markers (such as dative, locative, ablative, or instrumental) are the indirect object if they are obligatory, otherwise they are regarded as adverbs. Nouns and nominal compounds are those constituents which are preceded by either a demonstrative pronoun, an indefinite article, a quantifier, an adjective, or combinations thereof. Structures that were considered compounds consist of a head noun (the derived noun in -(y)Iş) preceded by a noun which is unmarked for case.

One of the most striking results is the clear absence of direct objects: Their expression is taken care of by the (unmarked) complement of nominal compounds, which attribute to some 25% of the stock. Together with another 25% of "bare" (nominalized) nouns they constitute 50% of the sample, and in not less than 38% of the occurrences the subject is expressed. Whereas direct objects are absent, the expression of indirect objects (11%) and adverbials (10%) does occur, but not very frequently. As for the expression of subjects, the distribution among transitive, intransitive and passive verbs does not show any peculiarities: 17% of the nominalized forms were based on a transitive verb, 11% on an intransitive verb, and 10% on verbs with passive morphology.

Before exploring the question as to how the figures in 16 should be interpreted, let me present some typical examples of the categories mentioned here.

(17) *Subject only (intransitive verb):*

a **Hayat-ımız-ın yürü-yüş-ü** *bu-ydu* *işte*
life-P1p-GEN go-(y)Iş-p3s this-PAST thus
'This was the course of our life, thus.' (= the way our life 'went')

Subject only (intransitive verb):

b *Anne-m* *hep* *titr-iyor,* **dudak-lar-ı-nın titre-yiş-i**
mother-P1s all shiver-PRES lip-PL-P3s-GEN tremble-(y)Iş-P3s

göz-le bile gör-ül-ebil-ir
eye-'with' even see-PASS-POT-PRES
'My mother shivers all over, the trembling of her lips can even be
seen by the naked eye.'

(18) *Subject plus indirect object (intransitive verb):*

a **İzin-den dön-üş-ümüz-de**
holiday-ABL return-(y)Iş-P1p-LOC

çocuk-lar-ı oraya götür-dü-k.
child-PL-ACC there bring-PAST-P1
'Returning from holiday, we took the children there.'

b *Ziffereo,* **Bağdat'a gel-iş-in-de**
Ziffereo Baghdad-DAT come-(y)Iş-P3s-LOC
'In a statement he made at his arrival in Baghdad, Ziffereo ...'

yap-tığ-ı açıklama-da ...
do-DIK-P3s statement-LOC
'In a statement he made when coming to Baghdad, Ziffereo ...'

(19) *Subject plus adverb*

a *1958-1962* *yıl-lar-ı* *arasında*
year-PL-CM between

nüfus-un hızla art-ış-ı
population-GEN rapid increase-(y)Iş-P3s
'The rapid increase of the population between the years 1958 and 1962'

b *Bu*, **bazı-ları-nın   geri dön-üş-ün-ü**
this some-PL-GEN back go-(y)Iş-P3s-ACC

biraz   çabuklaş-tır-abil-ir
a little speed up-CAUS-POT-PRES
'This may speed up the 'return-back' of some of them a little.'

(20) *Subject plus nominal compound*

Ruble-nin *ABD para   birim-i   karşısında* **değer   yitir-iş-i**
rouble-GEN USA money unit-CM against   value lose-(y)Iş-P3s[14]
'The value-loss of the rouble in relation to the US money unit'

(21) *Indirect object plus "direct object" (= compound)*

Suudi Arabistan'a **F-15   sat-ış-ı**
Saudi Arabia-DAT F-15   sell-(y)Iş-CM
'The sale / selling of F-15s to Saudi Arabia'

(22) *Nominal compound*

a *Cumhuriyet dönem-in-de hızlı* **nüfus   art-ış-ı**
republic   era-CM-LOC rapid population increase-(y)Iş-CM
'The rapid population growth in the period of the Republic'

b **Yol çizgi   boya-sı sat-ış-ı**
road stripe paint   sell-(y)Iş-CM
'The sale / selling of road-striping paint'

(23) *"Bare" noun*

a *Her* **çıkış**-*ın*   bir **iniş**-*i*   *var-dır*
each ascend-(y)Iş-GEN a   descend-(y)Iş-P3s 'exist'-emph.
'Every "up-going" has its "down-going"'

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[14] Since the compound *değer yitiriş* 'value loss' is contained in the possessive
construction the head of which is *ruble* 'rouble' the compound marker is not ex-
pressed, but "overruled" by the possessive suffix P3s. In this respect, 20 can be
contrasted to 21 and 22a. For details, see van Schaaik (1992, 1996).

b *Şef-imiz-in*   *her*   **uğrayış-ın-da**
boss-P1p-GEN each visit-(y)Iş-P3s-LOC

aynı   *söz-ler-i*   *söyle-di*
same word-PL-ACC say-PAST
'At every visit of our boss he spoke the same words'

c *B u*   *üniversite-de*   *yüz-de*   *kırk-lık bir kapasite* **artış-ı**
this university-LOC 100-LOC 40-adj a capacity increase-CM
'An increase of capacity of 40 per cent at this university'

In 17a-b, both being based on an intransitive verb, the embedded subjects have the genitive and, accordingly, the nominalized verb forms show person agreement as expressed by possessive markers. In examples 18a-b there is no overt subject, but the implicit subject status comes to the fore by the occurrence of person agreement: The possessive suffixes *-(I)mIz*[15] 'our' in 18a and *-(s)I(n)* 'his' in 18b. Adverbs are included in 19a-b, which both resemble 17 a-b. The phrase in 20 contains a genitivized subject as well as a zero-marked direct object, and, furthermore, an adverbial clause. An alternative way of handling *değer yitiriş* 'loss of value' is to say that it constitutes a nominal compound (cf. Van Schaaik 1996), which is expressed as *değer yitiriş-i* 'value loss-CM' when it is used as a "free" NP, but which takes a possessive marker in a possessive environment (as is the case in 29 because of *ruble-nin* 'of the rouble'). Also the text fragment from which 21 was taken does not contain a subject. Its heading "indirect object plus direct object" may be somewhat misleading, but what 21 at least demonstrates is that the compound *F-15 satış-ı* 'the sale of F-15s' (still) has the verbal property that it is expandable by an indirect object. Similar observations can be made in 22a, where *nüfus artış-ı* 'increase of population' is expanded by two adverbial phrases. In contrast to the case of 21, *satış* 'sale' in 22b does not exhibit any verbal properties since it occurs as the head in a complex (right-branching) compound which is entirely based on nominal material: *(((yol (çizgi boya)-sı) satış)-ı)*. Examples 23a-c are based on nouns: In 23a-b these nouns are individuated by the quantifier *her* 'every', and for 23b this yields the (alternative) interpretation 'Every

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[15] The "fourfold" vowel *I*, as in *(I)*, occurs after a consonant.

single time the boss drops by ...'. Finally, 23c shows again that a *-(y)Iş* nominalization may end up as a full (lexical) noun. It functions here as the head of a compound which is modified by the adjectival phrase *yüzde kırk-lık* 'of forty per cent'.

Returning to the figures tabulated in 16, they strongly suggest that embedded constructions based on the suffix *-(y)Iş* cannot be considered to represent a formation type that is equivalent to that of *-DIK* and *-mE* nominalizations. The expression of direct objects seems to be impossible, only in a limited number of cases do indirect objects and adverbials occur, and in far fewer than 50% of the cases is there an overt subject. Hence, speaking in overall terms, the comparison of *-(y)Iş* formations with finite clauses (as those in *-DIK* and *-mE*) is not successful.

When we compare the degree of "expressibility" of constituents in the constructions under discussion with the analyses of nominalizations described in Mackenzie (1996) and Koptjevskaja-Tamm (1993), we see that the general type of (non-)finite construction that comes closest to our *-(y)Iş* forms is a "genitive gerund" or a "productive nominalization". Mackenzie, who follows Ross (1973), distinguishes "gerunds" (e.g. *my horse winning the race*), "genitive gerunds" (e.g. *my horse's winning the race*), and "productive nominalizations" (e.g. *my horse's winning of the race*). Typically, gerund constructions contain subjects and direct objects that are expressed as in finite clauses; in constructions termed genitive gerunds only the subject is expressed by a genitive, whereas in productive nominalizations both subject and direct object take a genitive (or possessor-like) marker. According to Mackenzie, these distinctions match well with Koptsjevskaja-Tamm's findings, which were produced in a cross-linguistic study based on 99 languages: The gerund type of construction equals her "sentence type", a characteristic of which is that all constituents retain sentential marking; the genitive gerund corresponds with her "possessive-accusative" type of construction, where the subject takes the genitive and all other constituents have sentential marking; and finally, the "ergative-possessive" and "nominal" types as described in Koptjevskaja-Tamm correspond to Mackenzie's nominalization category. Roughly speaking, the main characteristic of the latter types is that either subjects and / or direct objects genitivize.

In the case of Turkish, however, there is only a parallel with the distinctions given above as far as *-DIK* and *-mE* nominalizations are concerned: Subjects take the genitive, but other constituents retain sentential marking. On the basis of this observation, this type of nominalizations

can be categorized as "genitive gerunds" (cf. Underhill's "gerundives"). As for the *-(y)Iş* nominalization, however, such parallels cannot be drawn, due to the mere fact that direct objects do not occur other than with zero-marking. The closest approximation is Koptjevskaja-Tamm's so-called "incorporating" type (Mackenzie's *race-winning of my horse*), characterized by genitive expression of subjects and incorporation of the direct object. This type of nouns is termed nominal compound in the present analysis, and constitutes 25% of the actual occurrences in our sample.

On the basis of the foregoing it is safe to claim for the data presented so far, that *-(y)Iş* types of formation are basically produced by a productive nominalization process which delivers a deverbal noun in the first place. According to Mackenzie[16] (who follows Vendler 1957), such nouns are formed, then, to denote "abstractions" (second-order entities) or, according to Lees (1960), they denote "ways of doing something" (cf. 14b, 15a, 17a). As for the "expressibility" of constituents, Mackenzie (1985, 1986) defends the hypothesis that such deverbal nouns are in principle a-valent (as formalized by the Valency Reduction Hypothesis), but that arguments and "implied" satellites can easily be reintroduced. For Agents and Patients the situation in Turkish is immediately clear: Subjects can be expressed (as they are by means of the genitive), but contrary to what might be expected, direct objects do not occur. The notion of "implied" satellite perhaps needs some clarification here. As Dik (1978, 1989) observes, for action verbs (and also for those denoting a Position or a Process) "the way in which such an action" is performed is necessarily implied, e.g. saying that 'John danced' implies that he danced in a certain way, which can be optionally expressed by a manner adverb. In quite a similar fashion,[17] using *dön(-üş)* 'return' in 18a implies a "direction" (to somewhere) or a "source" (from somewhere, here: *izinden* 'from vacation'), and *gel(-iş)* 'coming' in 18b implies "source" or "direction" (*in casu Bağdat-a* 'to Baghdad'). And even for 23c we

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[16] For a detailed survey of the syntactic, semantic, and pragmatic effects of nominalizations, see Mackenzie (1996).

[17] I am aware of the fact that there is a principled difference between the argument status and satellite status of constituents (see Dik 1989: 72-75), but I assume that these differences are, at least for non-first arguments, irrelevant with respect to deverbal nouns.

could say that if there is a "40% capacity increase" that it must be located "somewhere". Hence, *bu üniversitede* 'at this university' would constitute an implied locational satellite. In this view, also the indirect object of 21 *Suudi Arabistan-a* 'to Saudi Arabia' could easily be taken as an "implied" constituent, for 'selling' means 'selling something to someone'. However, for the direct object of 22b, *yol çizgi boyası* 'road-striping paint', it is impossible to assume some degree of "impliedness". Finally, for verbs denoting a process, such as *art-* 'increase' in 19a, 22a, 23c or *yitir-* 'lose' in 20, some additional (= implied) information about size, degree, volume, speed, and the like may be expected in any case.

Now, stipulating that a deverbal noun in -*(y)Iş* may take subjects and implied constituents by (re-)introducing them would mean for Turkish that (constituent) sequences as represented in 24 can be accounted for in 84% (= 38% subjects; 11% indirect objects; plus 10% adverbials and 25% "bare" nouns) of the occurrences of -*(y)Iş* forms:

(24) (subjectGEN) (indirect object) (adverbial) verb -*(y)Iş*

On the other hand, it is at least remarkable that in our sample not a single occurrence of a direct object marker with the accusative was found. The sole example (as attested in a recent newspaper) which could be considered as one containing a direct object was the following:

(25) *B u   toprak ürün-ler-in-in   satış-ı*
      this   soil   produce-PL-CM-GEN sale-P3s
      'The sale of these agricultural products'

However, expanding 25 by an Agent phrase leads to an ungrammatical sequence, which implies that the simultaneous expression of a subject and a direct object is "blocked". This can be shown by the following.

(26) **Köylü-ler-in   bu   toprak*
      farmer-PL-GEN   this   soil

      ürün-ler-in-in   satış-ı   yasaklan-dı
      produce-PL-CM-GEN sale-P3s forbid-PAST
      'The sale of these agricultural products by the farmers was forbidden.'

Even 25 was not equally well excepted by my informants. Most of them proposed to replace *satış* by its passive counterpart *satılış*, which makes *bu toprak ürünlerin-in* 'these agricultural products' the subject of the embedded verb. Contrary to what Mackenzie's model predicts, the simultaneous expression of subject and direct object in the form of (two) Possessors (as in *(my horse's) winning (of the race))* seems possible only in a very limited number of cases in Turkish.

Clearly, there is a difference between *-(y)Iş* nouns derived from intransitive verbs and those made on the basis of a transitive verb. Following Mackenzie's model, that is, assuming a productive mechanism that derives such nouns, "ready for use" so to speak, implies that a verb is "deprived" of its arguments and satellite positions, which can (at least in a number of cases) be (re-)introduced after that nominalization has taken place. Now, if we presume that such productions are made "on the fly" or "whenever desired" (as if comparable to what I have called "syntactic" nominalization) the question might be raised: "Why all this trouble of reducing argument and satellite positions if they are going to be reintroduced anyhow?" If such a nominalization is carried out to create a noun denoting an "abstraction" (in the sense of Vendler 1957), with different semantics as reflected in the reduced argument structure, it seems reasonable then, that such a new predicate is stored lexically, just because of the "derived" semantics it brings along. Furthermore, lexical storage involves re-indexation for the newly obtained lexical category. Similar to the indexations "V", "N", "A" for the basic predicates verb, noun, and adjective, the additional indexation could be thought of in terms of "N < V", NV, Nv, or whatever seems appropriate,[18] in which the "N" stands for the new status of the predicate, meaning that it should primarily be used as a noun, that is, that it has in principle obtained all properties of a basic nominal predicate. That implies that it can be specified for definiteness and that it can take case markers and possessive

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[18] Assuming that there are three basic lexical categories, V, N, A, a system of co-indexation could be set up for the six theoretically possible transitions between these categories. For Turkish, however, the transitions N < A and A < N are hardly utilized, so I give only examples of the four most common derivations: N < V *açılış* 'opening'; A < V *unutulmaz* 'unforgettable'; V < N *sula-* 'to water'; V < A *çabuklaş(tır)* 'to speed up'.

For a thorough treatment of word formation in Turkish, see Lewis (1967).

suffixes, etc., but that the possibility of pluralization is probably ex-
cluded since such deverbal nouns constitute a denotation of a "single
event". Its co-indexation "V", then, means that the predicate (still) retains
some of its verbal properties, but certainly to a limited extent, as is re-
flected by its reduced argument structure.

Whereas "real" nouns are a-valent in Mackenzie's view, it remains to
be seen if this could be said for the *-(y)Iş* nominalizations of Turkish as
well, especially when it comes to a more detailed classification. Taking
verbs as predicates with a full argument structure on the one hand, and
say, basic nouns as a-valent predicates on the other one, it will be clear
that there are some arguments in favour of the view that verbal nouns
take a position somewhere between these extremes. To be more con-
crete, I would suggest that for a first argument (the subject) of an intran-
sitive verb, it is not very likely that its argument position is reduced and
possibly reintroduced later, but that it remains part of the predicate
structure. The reason is equally simple as straightforward: Due to the
(still somewhat) verbal character of the verbal noun a subject is always
to be presupposed. Talking about *akış* 'flow' always presupposes that
'something flows', in other words, it is not feasible to talk about an
abstraction of some event by using a deverbal noun without, sooner or
later, having a subject in mind, irrespective of the fact whether its subject
is something tacitly in the background or whether it is overtly expressed.
Especially when we bear in mind that the statistics showed 38% overt
subjects, leaving room for 12% (= 62% minus 50% nouns, including
compounds) additional cases of unexpressed subjects (although verb-
subject agreement was shown throughout).

For transitive verbs we get the following picture: Both the subject and
direct object argument positions are reduced. The most frequent way of
expressing a direct object is by means of a nominal compound. Passives
(derived intransitives) on the other hand, are much like "real" intransi-
tives: The direct object of the "original" transitive verb takes the place of
the first argument of the passive. Hence, it will be expressed with the
genitive marker in combination with a deverbal noun, as can be exempli-
fied by the following:

(27) a *Eskişehir-in   düşman işgal-in-den   kurtul-uş-u*
       Eskişehir-GEN enemy   occupation-Ps3-ABL   to be liberated-(y)Iş-Ps3
       'the liberation of Eskişehir from the occupation by the enemy'

b *toplantı-nın*   *aç-ıl-ış-ın-da*
   meeting-GEN   open-PASS-(y)Iş-Ps3-LOC
   'at the opening of the meeting'

Taking into account that the expression of direct objects is "blocked" for transitive verbs and that its subject never appears in such nominalizations, we may assume that these verbs constitute the only category of verbal nouns which have a fully reduced argument structure. As a consequence, such deverbal nouns are fully lexicalized and a-valent. This view is supported by the observation that in *-(y)Iş* nominalizations of passive verbs only the original direct object can be expressed, and, as can be expected, is expressed as the genitivized subject. Deverbal nouns based on a passive verb stem can be compared to intransitive deverbal nouns.

In terms of a morphological derivation process, the effects of nominalization can be summarized as follows:

(28)   a *Intransitive verb*   *Example*
     Input: pred $_V (A_1)$ ak$_V (A_1)$ 'to flow'
     Output: pred-(y)Iş $_{Nv} (A_1)$ ak-ış $_{Nv} (A_1)$ 'flow'

      b *Transitive verb*   *Example*
     Input: pred $_V (A_1) (A_2)$ sat$_V (A_1) (A_2)$ 'to sell'
     Output: pred-(y)Iş $_{Nv} (A_1)$ sat-ış $_{Nv} (A_1)$ 'sale'

      c *Passive verb (= derived intransitive)*   *Example*
     Input: pred-PASS$_V (A_2)$ aç-ıl$_V (A_2)$ 'to be opened'
     Output: pred-PASS-(y)Iş $_{Nv} (A_2)$ aç-ıl-ış$_{Nv} (A_2)$ 'opening'

It should be noted, however, that once a deverbal noun in *-(y)Iş* based on an intransitive verb has been lexicalized the first argument position may "erode", thereby losing its "event"-reading. There are many examples of a transition of e-noun to x-noun. For instance, the noun *çıkış* can be considered as an e-noun meaning '(way) of going out' and allowing for the expression of a subject (type 28b), but also as an x-noun when it refers to 'exit'. In the latter case, the occurrence of a genitive complement can of course not be interpreted as a subject.

As we have seen, the deverbal nouns under consideration are to be considered "abstractions" for which it can be expected that "expressi-

bility" of constituents is more limited than in finite embedded clauses.
The abstractions were described as "single instances" of some action, as
has been illustrated on the basis of the "kissing event" in 12. In some
data, however, which have not been introduced yet, the element of
singularity of (an individuated) event, as singled out from a series of
(possible) events, in a number of cases hardly seems to be distinct from
a fact-reading or "circumstance"-reading. The category of verbs that
exhibit this property are verbs which contain the verbal negator *-mE*, as
demonstrated by the following:

(29) a *Bence   bun-un   neden-i   bir erkek   arkadaş-ım-ın*
         I. m. v. this-GEN reason-P3s   a   male   friend-P1s-GEN

        ol-ma-yış-ı   ve   ev-im-e   akşamları erkek-ler-in
        ol-NEG-(y)Iş-P3s and house-P1s-DAT evenings man-PL-GEN

        misafir olarak gel-me-yiş-i-dir
        guest   as   come-NEG-P3s-emph
        'In my view the reason for this is *that* I don't have a male friend and
        that men do not come to my house as guests in the evening.'

(29) b *Birbirin-i   sev-mi-yen   insan-lar-ı*
         each other-ACC   love-NEG-PRT   person-PL-ACC

        evlen-dir-ip   sonra   da
        marry-CAUS-CONV   after   and

        geçin-eme-yiş-ler-in-e   şaş-ıyor-lar.
        cope-NEGPOT-(Y)Iş-PL-Ps3-DAT   surprise-PRES-P3
        'And after they have married off people who do not love each other,
        they are surprised *that* they are not able to cope (with each other).'

Yet another small number of verbal expressions based on *-(y)Iş* nouns
were found which could be advanced as possible counter-examples for
the point of view defended here, namely, that "full blown" deverbal
expressions are not likely to occur frequently. As a matter of fact, with-
out exception, these examples were taken from texts that were translated
into Turkish, and what is more, these translations are not of a very recent

date. Compare the following examples, which all allow for a "facts" or "manner" reading:

(30) a *Bütün gece   eğlen-ir-ler,   fakat bu eğlence aynı*
   whole evening amuse-PRES-3P but   this feast   same

   zamanda   genç kızın   baba ev-in-den   ve kız
   time-LOC   young girl-GEN father house-P3s-ABL and girl

   arkadaş-lar-ın-dan   ayrıl-ış-ın-ı   sembolize eder
   friend-PL-P3s-ABL   leave-(y)Iş-P3s-ACC   symbolize-PRES
   'They have fun the whole evening, but at the same time this feast
   symbolizes (the moment) *that* the young girl leaves her father's house
   and her girl friends.'

   b *Karı-m-ın   piyano-nun ön-ün-de   sahte bir*
   wife-P1s-GEN   piano-GEN front-P3s-LOC false   a

   kayıtsızlık-la   otur-uş-un-u   hatırlı-yor-um
   indifference-INSTR   sit-(y)Iş-P3s-ACC remember-PRES-1S
   'I remember (that moment) *that / how* my wife was seated in
   front of the piano with a false air of indifference.'

   c *Koca   dolap-lar-ı   araba-dan tek başına indir-iş-i*
   giant   closet-PL-ACC   car-ABL   alone   unload-(y)Iş-P3s

   de   güçlü ol-duğ-un-u   göster-iyor-du
   too strong *be*-DIK-P3s-ACC   show-PRES-PAST
   'And also that moment / *how* he unloaded the giant closets
   from the pick-up was showing that he was strong.'

   d *Ben-i   kucakla-yıp   kemik-ler-im-i*
   I-ACC   embrace-CON bone-PL-P1s-ACC

   kırar-casına sık-tı,   öp-tü.
   break-'as if' press-PAST kiss-PAST
   '(S)he embraced me, squeezed me as if to break
   my bones, and kissed me.'

'Dişle-di'   *demek*   *daha* *doğru* *ol-ur,*
bite-PAST   say   more just   *ol*-PRES

öylesine sert *idi* *öp-üş-ü*
that   hard was kiss-(y)Iş-P3s
'To say "bit me" is more accurate, it was
that hard, her / his *(way of)* kissing.'

As can be observed by looking at texts written by Turkish authors, such
"expanded" expressions do not occur (at least in our sample). A possible
explanation for the occurrence of such *-(y)Iş* forms plus complements in
translations (thereby taking the appearance of a finite clause—compara-
ble to those in *-DIK* and *-mE*) may be interference with the source texts.
Another factor that may have contributed to the usage of *-(y)Iş* forms
rather than suffixes for finite forms is possibly the *Zeitgeist*. The trans-
lations from which the examples were taken are not very up to date, the
oldest one dating back to the late 1940s and the most recent one pub-
lished some fifteen years ago. In order to get an impression of how
modern speakers of Turkish would select an appropriate suffix, ten
informants were asked to complete a number of sentences from which
the suffix *-(y)Iş* had been omitted. The results[19] indicate unequivocally
that the preference for this suffix is not very high in most cases, even
when a "manner"-reading is possible. In the case of 30d the *-(y)Iş* form
was selected unanimously (ten times), but for 30b not more than four
respondents filled in *otur-uş* 'way of being seated', whereas six respon-
dents opted for *-DIK*, two of whom provided an alternative in *-mE*. This
can, of course, be explained in terms of "fact" versus "act" reading (cf.
section 2.1.). Also for 30a there was a high preference to "act" (eight
times *-ma(sı)*) over the usage of the deverbal suffix *-(y)Iş* (twice),
whereas for 30c the *-(y)Iş* form in the translation was replaced by the
"act" suffix *-me(si)* in 100% of the cases.

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[19] The degree of reliability or the extent to which these results are representative
should of course be investigated on a more solid basis; for instance, by taking a
much larger group whose members are evenly distributed in terms of age, level of
education, social class, geographical region, etc.

3. A brief note on lexicalization

As was indicated in the introduction, Pamir (1995: 182-183) makes a distinction between "action nominals (verbal nouns)" and "factive nominals (nominalization)". Although the *-mE* constructions discussed in 2.1. all have nominal morphology, these forms (consisting of a verb stem plus *-mE*) should be considered as the result of a nominalization that takes place at the syntactic level. Therefore they are to be regarded as inflectional rather than derivational forms. The genitive case marker, nominalizing morpheme, and possessive suffixes are used to express subject, tense, and subject-verb agreement only in a specific environment: When a predication is used as an embedded clause. Similar arguments can be advanced for the expressions referred to by Pamir as "nominalization", that is, forms in *-DIK / -(y)EcEK*. Hence, both formations in *-mE* and *-DIK / -(y)EcEK* should be termed either "verbal nouns" or "nominalization", since the same process underlies all formations. Furthermore, the term "verbal noun" is not very adequate either, because what is usually meant by this term is a type of predicate that is produced by derivation and not produced via an inflectional path.

So, the term "(de)verbal noun" should only be used for those forms in *-mE* which are brought about by some derivational rule that is applied to produce a new predicate. Such predicates indeed exist, especially since the underlying formation rule is highly productive. One should bear in mind, however, that there is a fundamental difference between seemingly equal *-mE* forms which occur in embedded clauses or in some other domain. Many forms containing *-mE* are lexicalized (deverbal) nouns, and are not *a priori* the result of an inflectional formation, as discussed above. This can be exemplified by the following:

(31) a *Berna,   Murat-ın   araba-sın-ı*
          Berna,   Murat-GEN car-P3s-ACC

      süsle-me-sin-i   beğen-me-di
      decorate-mE-P3s-ACC   like-NEG-PAST
      'Berna didn't like how Murat has decorated his car.'

      b *Berna, Murat-ın   süsleme-sin-i   beğen-me-di*
         Berna, Murat-GEN decoration-P3s-ACC   like-NEG-PAST
         'Berna didn't like Murat's decoration.'

In 31a *süsle-me-si* 'his way of decorating' is the result of a series of inflectional operations, whereas *süsleme-si* 'his decoration' in 31b is based on the lexicalized form *süsleme*.

A typical property of lexical *-mE* forms is that in many cases they also seem to denote first-order entities (things) besides second-order entities (events). For instance, *süsleme* 'decoration' also refers to a thing, the 'result of decorating' or the 'things one decorates with'; *bağlama* (< *bağla-* 'to tie, bind') is not only 'tying; binding', but also a certain 'musical instrument' or 'brace; crossbeam'; *besleme* (< *besle-* 'to feed, to nourish') is not only 'feeding, nourishing' but also (formerly) 'servant brought up as a member of the household'; *çıkartma* (< *çıkar-* + caus 'to remove') means 'having removed' and 'sticker' or 'transfer'; *havalandırma* (< *havalandır-* 'to air, to ventilate') refers primarily to a device ('air-conditioning') and secondarily to the event of 'airing, venti- lating'; *açıklama* (< *açıkla-* 'to explain, clarify') 'explanation / statement / comment' can be used to denote an act (of explaining) or to refer to a certain type of document (or text). Similarly, the predicate *alıştırma* (< *alıştır-* 'to train, exercise') means 'doing an exercise / training', but also the more concrete, textual representation of what should be exercised or trained.

A possible interesting parameter for further investigation as to how deverbal nouns may eventually end up in the lexicon (as e-nouns or as x-nouns) might be the transitive : intransitive opposition of the underly- ing verb. The same would hold for the fate of nominalizations in *-(y)Iş*. Since these forms are derivational by nature, it may be expected that a sizeable proportion have been lexicalized. Indeed, this is confirmed by a superficial survey of an electronic dictionary (Redhouse 1996).

Lexical forms in *-mE*, however, far outnumber the forms in *-(y)Iş*. Also, for this latter type of lexical formations many instances of a shift in entity order can be observed. Apart from the example *çıkış* 'act of going out' and 'exit', the following predicates may illustrate this point: *giriş* 'entering' (event) and 'entrance' (thing) ; *geçiş* 'passing' (event) and 'passage' (thing); *görüş* 'act of seeing' and 'opinion'; and finally, *iniş* 'going down' and 'downward slope'.

A special category of interesting lexicalized forms are some 35 "doublets", that is, derivational forms in both *-mE* and *-(y)Iş* based on one verb stem, e.g. *akma – akış* (< *ak-* 'to flow'); *çekilme – çekiliş* (< *çekil-* 'to be drawn'). How such forms can be further classified in terms

of entity order (or other relevant notions such as "result" or "manner"), however, is left to further investigation.

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A dictionary project in Yakutsk

Vladimir Monastyrev

Linguists at the Institute for Language, Literature and History of the Academy of Sciences of the Sakha Republic are currently devising a multi-volume, bilingual (Yakut-Russian) academic explanatory dictionary of the Yakut literary language. The project is being directed by Professor P. A. Slepcov. In order to show clearly the correct usage of every word, each entry will be accompanied by examples from classic Yakut literature and Yakut folk literature.

The dictionary aims to reinforce and secure the official status of the Yakut language. Additionally it should form an important basis for Yakut and Turkic linguistics and foster future development of these fields.

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Саха литературнай тыла билиҥҥи кэмҥэ саха тыллаах барыта биирдик туттар, тыл ордук тупсаҕай, үрдүкү форматынан буолар. Саха тылынан да, суругунан да, литературнай тыла олус бигэ, баай тирэхтээх. Е. И. Убрятова этэринэн саха норуотун тылынан уус уран айымньытын (фольклорун) тыла – олус үчүгэйдик чочуллубут тылынан туттуллар литературнай тыл (Убрятова Е. И. Исследования по синтаксису якутского языка. 2 часть. Сложное предложение. Новосибирск. Наука, 1976). Онтон саха литературатын классиктарын (А. Е. Кулаковскай, А. И. Софронов, Н. Д. Неустроев, П. А. Ойуунускай), норуот суруйааччыларын (Эллэй, Амма Аччыгыйа, Суорун Омоллоон, Күннүк Уурастыырап уо.д.а.) айымньылара саха суругунан литературнай тылын чулуу холобурдарынан буолаллар. Саха сэһэннэрэ уонна остуоруйалара, таабырыннара уонна чабырҕахтара, ырыалара уонна тойуктара, өһүн хоһоонноро уонна тылын номохторо үрдүк уус уран күүстээхтэр.

Онтон саха олоҥхото аан дойду норуоттарын бастыҥ эпическай айымньыларыгар киирсэр.

20-30 сылларга саха тыла олус күүскэ сайдан, государственнай тыл сүрүн өрүттэрин ылан иһэн, хомойуох иһин кэлиҥҥи кэмнэргэ салгыы сайдыбакка, аналын ситэри толорбокко, кэхтэр турукка киирбитэ. Ол эрээри төһө да көйгөтүлүннэр, олус бигэ тирэхтээх саха тыла саҥа кэм саҥа тыынынан литературнай тыл быһыытынан салгыы сайдар.

Билигин саха тыла Саха республикатыгар нуучча тылын сэргэ государственнай статустанна. Бу үрдүк аналын саха тыла билиҥҥи сайдыылаах тыллар таһымнарыгар тиийдэҕинэ эрэ ситэри толорор кыахтаах. Онон саха тылын үөрэхтээхтэрин иннигэр литературнай тылы салгыы күүскэ сайыннаран, түргэнник үүннэрии соруга турар. Онуоха литературнай тыл нуормаларын тупсаран оҥорон, национальнай тыл культуратын уонна эстетикатын үүннэрии уһу-луччу суолталаахтар (Саха тылын быһаарыылаах кылгас тыл-дьыта, 1994).

Саха литературнай тыла олус баай. Ону таба туһанан туттуу, сөпкө туһаныы бу сахалар норуот быһыытынан төһө сайдыы-лаахтарын, инники кэскиллэрэ төһө чөл туруктааҕын көрдөрөр. Хомойуох иһин биһиги тылбыт лексикатыгар тыл литературнай нуормалара толорутук кыайан сайда, олоҕура иликтэр. Онно көмө буолар, саха тылын лексическай баайын төһө кыалларынан толорутук хабар, биир турукка киллэрэр, тыл литературнай нуормаларын көрдөрөр сыаллаах, маҥнайгы Улахан быһаарыылаах тылдьыт Саха Сирин наукаларын Академиятын Тылга, литератураҕа уонна историяҕа институтун тылга салаатыгар про-фессор П. А. Слепцов салайыытынан оҥоһулла сылдьар.

Тылдьыты оҥорууга сүрүн төрүт быһыытынан 60-с сыллартан саҕаланан билиҥҥэ диэри байытылла турар тылдьыт академи-ческай картотеката (3 мөлүйүөн курдук цитатнай карточкалаах) туттуллар, ону таһынан картотекаҕа киирбэтэх сахалыы араас көрүҥнээх литература, сахалыы терминнэрдээх научнай, научнай-популярнай үлэлэр.

Тылдьыкка норуот уус-уран литератураҕа, публицистикаҕа, бэчээккэ уонна кэпсэтиигэ бүттүүн биирдик туттар тыллара, саха тылын тылы үөскэтэр ньымаларынан үөскээбит саҥа тыллар, сомоҕо тыллар, термин суолталаах холобуу тыллар төһө хомуллу-

буттарынан бүүс бүтүннүү киирэллэр, ону таһынан нормативность принцибиттэн туораабакка туран, эргэрбит лексика эмиэ хабыллар.

Былаан быһыытынан тылдьыт уонча туомнаах буолара сабаҕаланар, биир туом барыллаан 80-90 бэчээтинэй лиис холо-' бурдаах. Киэҥ научнай эйгэҕэ тахсарын хааччыйар наадатыгар тылы быһаарыы икки тылынан – сахалыы уонна нууччалыы бэриллэр. Нууччалыы быһаарыы сүрүннээн эргэрбит уонна соччо чуокайа суох суолталаах тыллары чуолкайдааһыҥҥа көмөлөөх буолуоҕа.

Маҥнайгы туомҥа улахан киирии тыл, тылдьыт оҥоһуллуутун, туһаныллыытын быраабылалара, кылгатыылар, литература испииһэгэ, кэнники туомҥа сыһыарыы быһыытынан тылы үөскэтэр, уларытар сыһыарыылар испиэһэктэрэ киириэхтэрэ. Тылдьыкка хас биирдии быһаарыллар тыл суолтатын дьэҥкэрдэр сыалтан тылы туттуу бастыҥ холобурдара бэриллэллэр. Бастатан, саха литературатын классиктарын, народнай суруйааччыларын, норуокка киэҥник биллибит, биһирэммит тыл маастардарын айымньыларыттан цитаталар киэҥник туһаныллаллар. Ону таһынан, тылдьыт синхроннай нормативноһын күүһүрдэр наадатыгар, билиҥҥи кэмҥэ тахсар айымньыларга уонна эдэр көлүөнэ суруйааччылар айымньыларыгар эмиэ улахан болҕомто ууруллар.

Маны таһынан, төһө кыалларынан, тыллар төрүт олохторунан атын тыллартан параллеллар, тэҥнэбиллэр бэриллэллэр. Маннык үлэ саха тылын государственнай статуһун бигэ тирэҕинэн буоларын таһынан, бүтүн тюркологияҕа туһата саарбахтаммат.

Онон үлэ суолтатын өйдөөн, профессор П. А. Слепцов көҕүлээһининэн, тыл, литература, история институтун тылга үөрэхтээхтэрэ тылдьыты тоҕоостоох кэмин аһарбакка, 2000 сылга диэри рукописнай варианын бүтэрэр сыаллаах, төһө да үп-харчы суоҕуттан сотору кэминэн бэчээттэнэн тахсара биллибэтэр, туруулаһан үлэлии сылдьаллар.

Бу үлэҕэ профессордар П. А. Слепцов, Е. И. Коркина, Г. В. Попов, П. А. Афанасьев курдук тюркология эйгэтигэр биллэр учуонайдар үлэлииллэрэ тылдьыт суолтатын өссө үрдэтэр.

Маннык улахан тылдьыт сибилигин кыайан бэчээттэнэн тахса охсубатынан сибээстээн уонна ааҕааччыларга сибилигин наадатын өйдөөн, ол көрдөбүлгэ көмөлөһөр туһугар 1994 сыллаахха профессор П. С. Афанасьев редакциятынан Саха Тылын быһаарыылаах кылгас тылдьыта сахалыы тылынан тахсан Саха респуб-

ликатыгар киэҥ биһирэбили ылла. Тылдьыкка литературнай
лексика ааҕааччы өйүн үчүгэйдик көҕүлүүр өттө, ол эбэтэр ордук
ис хоһоонноох тыллар көрдөрүлүннүлэр.

Reviews

Mark Kirchner: Review of İsmet Cemiloğlu, *14. yüzyıla ait bir Kısas-ı Enbiyâ nüshası üzerinde sentaks incelemesi.* (Türk Dil Kurumu yayınları 602.) Ankara: Türk Dil Kurumu, 1994. 21, 271 pages.

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Studies on Ottoman Turkish have until recently been more or less restricted to phonetical and morphological issues, syntax being left aside. Cemiloğlu's attempt to investigate the syntax of an anonymous 14th century *Kısas-ı Enbiyâ* (Eski Eserler ve Yazmalar Kütüphanesi in Bursa, Inv. 141), a genre characterized by a clear and action-packed plot, is a step into a new field of research that deserves to be noticed outside Turkey also.

Despite the fact that the *Kısas* were based on stories of saints written in another Oriental language, the syntactical structures correspond to what we expect for Old Ottoman Turkish. This is not astonishing since only few texts of that time are not translations from other languages. Cemiloğlu notes (p. xxi) that the first twenty leaves of the manuscript read like a translation.

Unfortunately the question of form and language of the underlying text is treated only superficially. Neither the Persian titles of the stories (some of the titles are Arabic) nor the hundreds of Arabic quotations give us a clear idea of the source, since either the Persian titles might be a creation of the Turkish author or the Arabic quotations might be reminiscent of quotations within the Persian text. The large amount of syntactical copies from Persian would represent more general evidence if we knew exactly that the manuscript was based not on a Persian but on an Arabic text.

In the second part of his book (pp. 121-243), Cemiloğlu presents the neatly transcribed legible text on which the syntactical study is based. It is followed by short remarks on orthography and related subjects (pp. 244-257), a useful glossary and, finally, as an appendix, some facsimile pages of the manuscript.

The author's method of studying syntax is influenced both by traditional grammar and structuralism. Unfortunately, issues of general interest, definitions and ter-

minology are discussed chiefly on the basis of the Turkish grammars by Ergin, Ban-
guoğlu and Gencan as well as other traditional studies from Turkey that are more or
less meagre in syntax. Although studies in modern Turkish are now integrated into
general linguistics, this is still not valid for studies on older stages of the language
published in Turkey. Apart from this insufficiency, Cemiloğlu presents much
valuable material, clearly arranged, and many interesting comparisons with Modern
Turkish.

Some (critical) remarks:

The first topic of the study is coordinated noun phrases (pp. 9ff.). What
Cemiloğlu calls "tekrar grubu" as opposed to "bağlama grubu" are asyndetic vs.
syndetic coordinated NPs. The material is arranged according to a semantic classifi-
cation and also includes intensive adjectives (e.g. *toptolı* 'chock-full'), which should
be treated within the morphology and not the syntax.

Next we find a presentation of the material according to its syntactic function.
This form of presentation makes sense for the object position, where we observe
double marking with the accusative (*yiri gögi gördi* 'He saw heaven and earth'), but
not for the adverbial or predicative positions.

The same goes for the authors treatment of syndetic coordinated noun phrases.
The material is too elaborately classified, which is without relevance for the discus-
sion of syntactic rules. The room taken up by this classification would have been
better used to explain the function of the conjunctions *u / ü*, *ve* and *ile* in these
phrases. Generally speaking, over-classification is the weak point of this syntax.

Nevertheless, its rich material gives us a wider and deeper insight into Ottoman
syntax than most of the dispersed studies and remarks in former editions of Ottoman
texts. On pp. 18-23 the author presents interesting data on izafet groups. There are,
for example, izafet groups with a definite person as possessor which have no genitive
marking (*İbrâhîm anası* 'Ibrahim's mother', cf. Modern Turkish *İbrahim'in annesi*).
This is also observed in constructions with possessive participles: *Âdem ekdügi
buğday deve kuşınuñ yumurdası gibiydi* (fol. 23a) 'The wheat that Adam sowed was
as big as an ostrich's egg'.

The syntax of postpositions (pp. 33-38) also differs from that of Modern Turk-
ish. For example, *soñra* 'after' governs the ablative case with expressions of time,
while there is no case marking in such constructions in the modern language.

Treating the postposition *kadar,* Cemiloğlu is aware of the fact that it has two
functions with different government in Modern Turkish, but he combines the count-
ing words *o kadar, şu kadar* (*ol kadar, şol kadar* in his text) with the corresponding
postpositions *onun kadar, şunun kadar*. Instead of listing two different postpositions
kadar and *degin*, the author deals with the latter as a "form" of the first one ("daha
çok 'değin' şeklinde görülmektedir", p. 36). If we examine the examples listed for

the dative case, we only find examples of *degin*, while for the nominative case only *ḳadar* is listed. If this is true of the whole text, it would mean that *ḳadar* and *degin* are functionally differentiated.

The function of B-converbs is claimed to be not different from Modern Turkish ("fonksiyon bakımından bugünkü Türkiye Türkçesinden farklı değil", p. 45). As Cemiloğlu lists the forms out of context, his claims have to be proved by an examination of the text. Indeed, the text shows no clause chaining with B-converbs as known from later Ottoman Turkish, and thus resembles Modern Turkish. We see that the functional domain of B-converbs in Classical Ottoman is, in this text, occupied by juxtaposition and coordinating conjunctions.

Ki-clauses (pp. 60-63) are analyzed as "external clauses" ("dış cümle") which formally and semantically depend on the main clause.

On pp. 65-77, the author presents interesting statistics on the parts of speech and their position within the sentence. It should be noted that sentences with SOV-order are interpreted as "regular sentences" ("kurallı cümleler"), while divergent orders are suspected to be a result of influence from the underlying non-Ottoman text. Nevertheless, Cemiloğlu's statistics provide a good basis for further investigation into Ottoman text linguistics.

The chapter "Mânâlarına göre cümleler" ("Sentences according to their meaning", pp. 78-87) deals with several moods of Ottoman sentences. Interrogative clauses are arranged according to formal aspects as well as to their "functions", which prove to be mere contextual variants, such as the "function of worry and anxiety" ("üzüntü ve kaygı fonksiyonu") or the "function of the absence of knowledge" ("bilinmezlik fonksiyonu") (pp. 86-87). On pp. 98ff. Cemiloğlu makes some interesting observations on plural agreement and *ad sensum* constructions. He clearly shows, on the basis of rich material, that plural marking on the finite verb was more developed in the Old Ottoman text under investigation than in Modern Turkish.

In his conclusions (pp. 114-118) the author regrets the lack of a detailed and systematic syntax of Modern Turkish, which could have been used as a model for his investigations. In spite of this lack, Cemiloğlu has ventured to write a syntax of Old Ottoman on the basis of a suitable text. Even if the method applied is a less appropriate model for further studies, a great many of the observations and data can, as the author hopes, serve as "building material" for a historical syntax of the Ottoman language.

Ahmet Kocaman: Review of Kamile İmer, *Türkiye'de dil planlaması: Türk dil devrimi* [Language planning in Turkey: The Turkish language reform]. (Kültür Bakanlığı yayınları 2166, Yayımlar Dairesi Başkanlığı kültür eserleri dizisi 230.) Ankara: T.C. Kültür Bakanlığı, 1998. 219 pages. ISBN 975-17-2067-2.

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The Turkish language reform has drawn the attention of many scholars outside Turkey, since it is one of the best examples of success in many facets of language planning (LP) over a short period of time. It has been particularly praised for the consistency attained in alphabetization, in lexical modernization, and in the spread of scientific terminology; see Fishman (1974: 74), Brendemoen (1990), Doğançay-Aktuna (1995), Boeschoten (1997).

In Turkey itself much has been written about the language reform, but scarcely anything about language planning in general, as the purification movement was always in the forefront of discussions. The book under review, written by Kamile İmer and published by the Turkish Ministry of Cultural Affairs on the occasion of the 75th anniversary of the Republic, deserves scholarly attention as it changes the previous narrow outlook on the issue.

Kamile İmer has been working on this topic since her doctoral dissertation (İmer 1976). The present book is a kind of reappraisal of the whole process.

The book consists of five chapters, an introduction and a conclusion. In the first chapter, the basic concepts of language planning (definition, scope, organs, objectives, etc.) are scrutinized. The model (Haugen 1983) used in describing and evaluating the language planning process is explained. The author notes that language planning has two aspects, policy planning and language cultivation. Policy planning is concerned with the selection and codification, while language cultivation covers implementation and elaboration (spread). Selection and implementation are primarily socially oriented and components of status planning, whereas codification and elaboration are linguistically oriented and treated within the scope of corpus planning.

The second chapter briefly studies the development of the Turkish language up to the Republican era. The author notes that, with the adoption of Islam, Arabic and Persian words started to influence Turkish. In the sixteenth century there was almost a diglossic situation in the country. Ottoman was used in literature and among the government elite, and less influenced varieties of Turkish were used among the people in general. During this period also, grammatical rules were borrowed from Arabic

and Persian. Only in the second half of the nineteenth century—through the influ-
ence of the new journalism and some language-conscious groups such as *Genç ka-
lemler* ["Young authors"]—was the need for purification of the language emphasized.
Actual language planning, however, did not become possible until the Republican
period.

İmer evaluates the language planning of the Republican era in two parts. The first
period roughly covers the years 1923-1980. In this period, first under the charismatic
leadership of Atatürk and later his close friend İnönü, language planning was imple-
mented very successfully. As the author remarks, almost all objectives of the lan-
guage planning in terms of codification and elaboration were attained. There was
nationwide support'for graphicization, lexicalization, terminological modernization,
etc. The confusion of similar words such as *ayrım* 'difference', *ayrıntı* 'detail',
ayrıcalık 'privilege', *ayrılık* 'separation' caused some minor difficulties, and some
semantic distinctions had to be made when using foreign elements and native words
like *şüphe* vs. *kuşku* 'doubt', *aşk* vs. *sevgi* 'love'. But the spirit of modernization
reigned over language as well as over other fields of activity in the country. This
reflected the enthusiasm of the people as well as the determination of the administra-
tion in those years.

According to the author, the same enthusiasm has not continued after the 1980s,
when *Türk Dil Kurumu*, The Turkish Language Society, was transformed into a
government office. This period was anticipated as far back as the 1950s, when the
Democratic Party came to power. In that period, the language of the earlier constitu-
tion, which contained many Arabic and Persian loans, was readopted, and the use of
foreign elements in government documents was encouraged. The same attitude was
readopted at the beginning of the 1980s, when the structure of the Language Society
was changed.

However, as İmer remarks, despite bans on the use of some lexical items, mostly
neologisms, and other coercive measures, the language reform seems to have taken
root. Today there is not much rift in terms of the vocabulary used between opposing
groups of journalists.

As the author points out, language reform is only one of the objectives of lan-
guage planning, but the public often equates these two concepts, because lexicaliza-
tion—particularly in the form of neologisms—is most evident in the everyday use of
language. This has also been true in recent years. People have started to raise com-
plaints about the flooding of foreign words, especially English ones, into the lan-
guage. Some even describe it as a deterioration or a decay of the Turkish language.

In the last chapter, İmer recapitulates the perspectives of language planning in
general and proposes that the new Language Society be transformed into a language

academy and the present *Türk Dil Derneği* be given the former status of *Türk Dil Kurumu.*

The book is a brief but remarkable survey of language planning in modern Turkey. It displays a consistent use of methodology and includes a comprehensive bibliography. The terminology is wisely used, and differences between related terms are clearly accounted for. İmer's explanations are clear-cut and very illuminating. The book will serve as an indispensible primary source for those studying Turkish language planning and Turkish linguistics in general.

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Christoph Schroeder: Review of Jaklin Kornfilt, *Turkish*. (Descriptive grammars.) London: Routledge, 1997. xxxii+575 pages. Hb. £ 110,-. ISBN 0-415-00010-6.

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The first comprehensive description of Modern Standard Turkish published in English since Swift 1963, Underhill 1976, and Lewis 1975, is sure to arouse interest in the worlds of linguistic Turcology and general linguistics.*

Turkish is intended for the linguist, especially for the general linguist, typologist or comparative linguist who is interested in a thorough description of a language he / she has not much knowledge of. The book is part of a series entitled "Descriptive Grammars", edited by Bernard Comrie. To date, the series includes 29 descriptions of different (and mostly minor) languages. According to Comrie's "Editorial statement" (pp. iii-iv), the general aim of the series is to provide *comparable* descriptions which are able to bridge the gap between traditional description and its often isolated terminology on the one hand, and modern linguistic theory on the other hand. As with all the other descriptions in the series, a structured *Questionnaire*, first published in *Lingua*, vol. 42 (1977) provides the framework for the description of Turkish in *Turkish*.

1. Presentation of the book

The book comprises nearly 600 pages. It has a detailed and useful table of contents, a not so useful index (see below, section 3.), and a five-page bibliography. A "brief overview of some important characteristics of Modern Standard Turkish"—not included in the first edition—and a short list of *errata* in form of a seven-page addendum are available free of charge from the publisher.

Five chapters follow the questionnaire, in covering "Syntax" (Chapter 1, 211 pages), "Morphology" (Chapter 2, 271 pages), "Phonology", (Chapter 3, 32 pages), "Ideophones and interjections" (Chapter 4, 3 pages), and "Lexicon" (Chapter 5, 17 pages), followed by 18 pages of endnotes.

Turkish presents a synchronic view, with only a few remarks with regard to the history of a morpheme (for example, on page 260, the suffix *-in* in *yazın* is described

as "the old instrumental", and the Arabic dual is noted as having been borrowed by Ottoman as -*ayn*, p. 265).

The author of *Turkish*, Jaklin Kornfilt, is a recognized expert on the language and well known for her linguistic work within the theoretical framework of Government and Binding as well as Minimality Theory. One could say that the emphasis she places on syntax and morphology is influenced by this theoretical approach. Also, Kornfilt's approach basically represents the modern American linguistic discussion. Other Turcological points of view are not discussed, nor are European works (Turkish ones included) integrated to the extent they could have been, which explains the astonishingly short bibliography and gives the discussion a certain imbalance. Although this does not lessen the high quality of the book as a descriptive grammar, the reader should not expect an introduction to the variety of analyses of or approaches to Turkish grammar.

1.1. Chapter 1, "Syntax"

Chapter 1 thoroughly describes the main parts of Turkish syntax, starting with "Sentence Types"(1.1.1.) and an overview of "Subordination" (1.1.2.), followed by "The internal structure of sentences and phrases" (1.2.), "Coordination" (1.3.) and more specific functional domains, such as "Negation" (1.4.), "Anaphora" (1.5.), "Reflexives" (1.6.), "Reciprocals" (1.7.), "Comparison" (1.8.), "Equatives" (1.9.), "Possession" (1.10.), down to functional-pragmatic aspects, such as "Emphasis" (1.11.) and "Topic" (1.12.). Some smaller subsections follow, viz. "Heavy shift" (1.13.), "Other movement processes" (1.14.), "Minor sentence types" (1.15.), and "Operational definitions for word classes" (1.16.).

In particular the subsections 1.4. to 1.12. contain comprehensive information for non-Turcological linguists interested in questions of scope, accessibility and variability in a functional domain. But Turcological linguists, too, will find many new insights into topics which have not been treated consistently in this way before, if at all. Let me point out some of these:

1. To my knowledge, Kornfilt is the first to deal with the phenomenon of adjective arguments (pp. 94-95). It is particularly interesting to see that Turkish does not allow adjectives to have accusative arguments. For example, the verb *kıskan-* 'envy' takes accusative arguments, as in 1, but the corresponding adjective *kıskanç* 'envious' only allows dative arguments, as in 2:

(1) (p. 94, 373)
   Hasan Ali-yi   kıskan-ıyor.
   Hasan Ali-Acc. envy-Pr.Prog[1]
   'Hasan envies Ali.'

(2) *Hasan Ali-ye (*Ali-yi)   kıskanç*
   Hasan Ali-Dat. (Ali-Acc.) envious
   'Hasan is envious of Ali.'

For linguists interested in the transitional relationships between word classes and the morphosyntactic consequences accompanying them, this opposition may point to the non-verbal character of adjectives in Turkish, since it means that they may not assign grammatical case.

2. In the section "Adjective clauses" (1.1.2.3.), after having described participle clauses and briefly noting *ki* constructions (see below, section 2.1.), Kornfilt identifies a further type of relative construction which is rarely discussed under that heading.[2] It is a kind of correlative, semantically akin to free relatives, and, structurally, an embedded conditional:

(3) (p. 60, 259)
   Ben Chomsky ne   yaz-ar-sa   on-u   oku-r-um
   I   Chomsky what write-Aor.-Cond.   that-Acc. read-Aor.-1.sg.
   'I read that which Chomsky writes.'

The discussion deserves mention because it shows Kornfilt's emphasis on functions instead of classification on a formal basis.

3. In the "Coordination" section (1.3.), Kornfilt very clearly shows that the enclitic conjunctional postposition *-(y)lA* has different syntactic properties when used as a coordination marker and a comitative marker (pp. 114-116). First, as a coordinator for noun phrases and nominalized clauses, *-(y)lA* appears between the conjuncts and cliticizes onto the first conjunct, while as a comitative marker, it cliticizes onto the second noun phrase in the unmarked word order. Second, when the postposition is used with the subject of the sentence, the coordinate structure triggers plural agreement on the predicate, while with the comitative construction, the predicate is in the singular. And third, coordinate structures may not be broken up by moving

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[1]   In the examples from the book I follow the interlinearization given therein.

[2]   Ozil (1993) is another noteworthy exception.

either constituents, whereas the noun phrases involved in the comitative construction
may move.

4. It is one of the positive outcomes of a description based on a pre-structured
framework that topics are raised which are usually neglected. For example, the se-
mantic distinction between "alienable" and "non-alienable" possession is generally
not regarded as a distinction with syntactic or morphological reflections in Turkish.
Consequently, it is not dealt with in traditional descriptions. In the "Possession"
section (1.10.), however, Kornfilt shows that the distinction between alienable and
non-alienable may in fact be seen as having an impact on Turkish. First, it makes a
difference in the possibility of separating genitive constructions in existential sen-
tences (p. 186). Thus, while alienable possession, as in 4, allows for the separation
of the genitive, non-alienable possession, as in 5, does not:

(4) (p. 186, 677)
    Hasan-ın   garaj-da   beş araba-sı var.
    Hasan-Gen. garage-Loc. five car-3.sg. exist
    'Hasan has five cars in the garage.'

(5) (p. 186, 678)
    ?? / * Hasan-ın   alçı-da   bir kol-u   var.
            Hasan-Gen. plaster-Loc. one arm-3.sg. exist
    Intended reading: 'Hasan has one arm in a cast.'

Second, the distinction between alienable and non-alienable possession makes a
difference in subject possessive noun phrases of non-nominalized embedded clauses,
which at the same time receive the direct object marking of the superordinate clause:

(6) (p. 187, 682)
    (Ben) [[Hasan-ın   diş-in-i]   ağrı-yor]   san-ıyor-du-m.
    I   Hasan-Gen. tooth-3.sg.-Acc. hurt-Pr.Prog. believe-Prog.-Past-1.sg.
    'I believed Hasan's tooth to hurt.'

Here, the interpretation of the possession is always alienable. Thus, as Kornfilt
points out, it is suggested that "Hasan's tooth would somehow be hurting on its
own, without Hasan himself necessarily feeling the pain" (p.187).

5. Traditional descriptions.are often troubled by the fact that Turkish verb phrase
adverbials such as *erken* 'early', and *dışarı* 'out' may be inflected for adverbial case,
e.g. *erken-den* (early-ABL), and *dışarı-ya* (out-DAT). Kornfilt examines this phe-

nomenon from a pragmatic angle where it appears as an instance of topicalization of the adverbial (p. 202).

1.2. Chapter 2, "Morphology"

With 272 pages, Chapter 2 is one of the most detailed descriptions of Turkish morphology written in a language other than Turkish. The chapter has two main subsections, "Inflection" (2.1., pp. 212-444) and "Derivational morphology" (2.2., pp. 444-482). The subsection on inflection follows the traditional path of describing the inflectional properties of each word class, the operational definitions of which are outlined in the last subsection of the syntax chapter.

Again, we find numerous new insights. Particularly remarkable are the detailed treatment of the expressions of local and nonlocal semantic functions in the sentence (pp. 226-255), the subsection on voice categories (pp. 323-336), and the treatment of clitics (pp. 435-444). The overview on incorporation (pp. 396-405) is of note here because it is not confined to the much-discussed direct object incorporation, but also examines cases where postpositions, adverbs, adjectives and other constituents may be regarded as incorporated.

The subsection on derivation is considerably short, given the scope dedicated to this part of Turkish morphology in traditional descriptions such as Banguoğlu (1986) and Ergin (1985). Only the most productive derivational morphology is dealt with. Borderline cases between inflection and derivation are discussed without the author taking explicit standpoints, for example, with regard to nominalization as against the derivation of nouns from verbs (p. 450), formation of adverb clauses as against deriving adverbs from verbs (p. 464) and incorporation as against compounding (p. 477). Not discussed is the use of the converb suffix -*ArAk* with *ol-* 'be' in combination with adjectives, as in *asgarî ol-arak* (minimal be-CONV) 'at least', literally 'being minimal'. Kornfilt labels these combinations the "derivation of adverbs from adjectives" (p. 478). One could also speak of the formation of a subjectless adverbial clause, which can, admittedly, be translated into English in the form of an adverb.

1.3. Chapter 3 "Phonology"

Chapter 3 presents a concise overview of Turkish phonology. The chapter is comparatively short, but references to more detailed treatments of specific phonological topics are included. The frequent statement of "rules" and "principles", the status of which is not completely clear to readers not familiar with the generative approach, is, however, slightly confusing. Sometimes, more "traditional" explanations could have accompanied the description. For example, we find a treatment of the "distinctive

degrees of length in various segments" on page 501. Here, Kornfilt shows that two facts can lead to the distinctiveness of long vs. short vowels in Turkish, which, essentially, has only short vowels (p. 489). The two facts are the long vowels in some loanwords, and, second, the process of "compensatory lengthening" triggered by the "soft *g*" / "yumuşak *g*" in syllable-final position (when it cannot be resyllabified with a following vowel) (p. 488). In a synchronic approach, "compensatory lengthening" is undoubtedly the appropriate term for the process. But a short note explaining that the lengthening results from the loss of a voiced velar fricative in Turkish (cf. Csató & Johanson 1998: 204), would have been helpful.

1.4. Chapters 4, "Ideophones and interjections", and 5, "Lexicology"

Chapter 4 lists a number of Turkish ideophones and interjections. The section on interjections (4.2.) contains a few notes on the way in which the yes / no clitic *mI* is used to express shades of modality and the way in which the forms *şey* 'thing' and *falan (filan)* 'and so on' are used in order to structure unplanned spoken discourse.

Chapter 5 provides a useful tool for lexicologists interested in large-scale typological comparisons, since it gives (scarcely commented) lists of words, organized by semantic fields such as "Kinship", "Color", "Body parts" and the like.

2. Some topics in detail: Critical remarks

It goes without saying that a 600-page description of Turkish grammar is bound to contain numerous topics that can be viewed in different ways, that are open to discussion and criticism or that, simply, show shortcomings or create confusion. In this section, I shall address some of these topics.

2.1. The complementizer *ki*

The treatment of the form *ki* is confusing (pp. 3, 12 / 13, 45, 60, 321-323 and 443). When introducing *ki*, Kornfilt calls it a "complementizer" which subordinates finite clauses (p. 46), mostly complement clauses. It is classified as a clitic because it attaches to the preceding word (p. 443), occurs with a subsequent pause and cannot be stressed.

On page 60, some examples are given where constructions with the clitic *ki* may be regarded as resembling relative clause constructions. The discussion closes with the remark that these constructions "have come into disuse".

Later, in the morphology chapter, the topic of the clitic *ki* is taken up again. Here, Kornfilt says that it is used "as a relative pronoun" (pp. 321-322) and states that "it is possible to use the Indo-European [relative clause] construction with relative pronouns" in Turkish (p. 323). An example:

(7) (p. 323, 1137)
O   yer   ki   herkes   çok iyi bil-ir
that place which everybody very well know-Aor.
'That place which everybody knows (it) very well.'

Certainly, if we translate *ki* as 'which', we obtain the English relative clause. But constructions like 7 are copies from Iranian languages. There, the phonologically similar form is not a pronoun, nor even used as such. It is simply a subordinator.

It is also confusing to first speak of the "disuse" of a pseudo-relative construction and then to imply that the respective subordinator is regularly used in such constructions. And it adds to the confusion when in the section on anaphora (1.3.) a completely different suffix *-ki*, which attaches to headless genitive modifiers and modifiers of time and place, is also said to function "in some sense" like a relative pronoun (p. 131).

Furthermore, Kornfilt fails to mention that Turkish has a second form of *ki*. It is used in the spoken language and differs from the clitic *ki* in that a pause occurs before it, it can be stressed and it introduces (finite) sentences which could, under certain circumstances, be viewed as a near-equivalent to non-restrictive relative clauses:[3]

(8) *Onlar çok sev-diğ-im*   *insan-lar-dı,*
    they   very love-PART-POSS.1SG   people-PL-PST

k i *hala seviyorum.*
ki still love-PROGR-1.SG
'They were people I liked very much, (*ki*) I still like (them).'

2.2. Adjectives and adverbs

On page 91 we find the simple statement that in Turkish, "almost any adjective may be used as an adverb". In a certain way, Konfilt contradicts herself on this topic. On page 404, she mentions that "nonderived adverbs" may not leave the position immediately in front of the verb and may, in this position, be viewed as incorporated. What is omitted, however, is the fact that adjectives in the position of adverbs, which are not morphologically marked as adverbs (i.e., which do not have the suffix *-CA* or are reduplicated), *always* occupy this position. Since Kornfilt does not ex-

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[3]   The example comes from a corpus of spoken Turkish in Istanbul, 1993-1995.

plain her concept of incorporation (does the incorporated element form part of the verb or does it retain its syntactic status?), the question remains whether the "adverbial" use of adjectives really leads to free adverbial forms or whether it should rather be viewed as the formation of a complex construction with the verb it precedes.

2.3. Postpositions

Five pages in the syntax chapter deal with postpositional phrases (pp. 100-104). It seems that, with regard to postpositions, Kornfilt tries to create a certain uniformity of a word class which, in Turkish, is in fact highly heterogenous.

First, in the "Operational definition for the postpositional phrase", we find the statement that postpositions can easily be distinguished from adjectives because the latter do not assign case (p. 100). The distinction is not that easy. Turkish has a number of forms which, like adjectives, can be used attributively and predicatively. They form complex phrases with complements, to which they assign (adverbial) case, i.e. *ait* 'belonging', 'concerning', *yönelik* 'directed', *bağlı* 'connected, 'related', *ilgili* 'concerning', 'related'. What distinguishes the phrases headed by these forms from phrases headed by so-called "postpositions" like *ile* 'with' and *için* 'for' is the fact that the latter phrases cannot be used attributively, while the first phrases cannot be used adverbially. Thus, a syntactic restriction in the "Operational definition for the postpositional phrase" stating that postpositional phrases are adverbial phrases would have been appropriate. This then would have forced Kornfilt to reconsider the statement made on page 424: "postpositional phrases can also be used as modifiers of noun phrases". On the contrary, it is an important syntactic feature of Turkish that it generally does not allow postpositional phrases to be modifiers, at least not in noun phrases with full lexical first, second or third order nouns (in the sense of Lyons 1977) in head position.

Second, it is problematic to analyze words like *önce* and *sonra* as "postpositions without argument" (pp. 100, 102) when they are used as bare adverbial forms in the meanings of 'previously' and 'later'. Morphosyntactically, these two forms behave exactly like adverbials when they are bare—and "adverbials" is what they are called in another section, on page 452. Is this a sign of inconsistency, or does the author agree that the forms should be assigned two domains of use, on the one hand as postpositions, and on the other hand as adverbs?

Third, further on in the subsection, Kornfilt shows that "postpositions" like *kadar* 'as much' and *gibi* 'like' may take tensed clauses as complements (p. 103). See an example with kadar:

(9) (p. 103, 402)
[yarışma-yı   kazan-acak] kadar   (güzel)
competition-Acc. win-Fut.   as much as beautiful
'As much (beautiful) as to win the competition'

The above example is presented under the heading of "Finite adverbial clauses". We find similar examples on page 97 under the same heading. Here, Kornfilt explains that these clauses "are not genuinely finite, although they are not nominalized" (A reference to this remark would have been appropriate on page 103). I fail to understand why these clauses are not nominalized. Kornfilt may have explained the complement clauses *kadar* may take as clauses formed from attributive participles. These participles are based on the combination of the verb stem with the (future tense) suffix *-EcEk* or the (past tense) suffix *-mlş*. Both participle types are mentioned in the morphology chapter. In the syntax chapter, however, *-mlş* and *-EcEk* appear only in combination with *olan*, 'being', the participle form of *ol-*, 'be' (section on relative clauses, pp. 65-66). Once the existence of participial *-mlş* and *-EcEk* forms is acknowledged, why not regard the respective (verbal) arguments of *kadar* as participle phrases which, consequently, may be said to have a certain degree of nominalization?

The complications with *gibi* and *kadar* do not end here. In a certain way, Kornfilt is right in listing *gibi* under the heading of postpositions taking finite clauses as complements. *Gibi* is rather unique in this respect. It shares three features with *kadar*. These features are not possible with any (other?) postposition: First, the phrases headed by *kadar* and *gibi* may be attributive, predicative and adverbial. Second, as mentioned above, the two forms may take phrases headed by *-mlş* and *-EcEK* participles as complements. Third, both *kadar* and *gibi* may be combined with the possessive suffix of the third person singular and act as anaphoric noun phrases:

(10) *Bunun   gibi-sin-i   çok   gör-dü-k.*
        this(GEN) like-POSS.3SG-ACC   a lot see-PRT-1PL
        'We have seen lots of this (like this).'

(11) *Bu   kadar-ı   yet-er.*
        this   as much-POSS.3SG   be enough-AOR.3SG
        'This (of it) is enough.'

This is a feature which *kadar* and *gibi* share with adjectival modifiers. And *gibi* (but not *kadar*) may also take finite clauses (that is, clauses with a person marker from the predicative / verbal paradigm) as complements:

(12) (van Schaaik 1996: 275)

    Beni hiç   *gör-me-miş-sin*   *gibi dur-up*   *bak-ma!*

    me   emph(neg.) see-NEG-PST-2SG like stand-CONV look-NEG (IMP)

    'Don't stand there and look at me as if you've never seen me!'

The four features listed above are not shared by any other postposition. Are *gibi* and *kadar*, then, postpositions? They would at least have to be described as highly exceptional members of this word class. On the other hand, the evidence van Schaaik (1996) gives in his thorough analysis of *gibi*-constructions rather suggests that they should be classified as (non-finite) predicates.

3. *Turkish* and the questionnaire

Some of the qualities and some of the problems of *Turkish* are related to the questionnaire which forms the base for the book.

    1. It is an indisputable quality of a pre-structured framework that one learns a lot about structures which are not represented in the grammar of Turkish. In conjunction with this, Kornfilt often gives ungrammatical examples (marked as such) and notes shadings of acceptability in order to give clear pictures of the structural frame within which linguistic phenomena are to be understood.

    2. On the other hand, *Turkish* does not offer what the questionnaire does not ask for. For example, we do not find anything about the differences between planned and unplanned speech and we do not find any information about stylistic variations. Similarly, the section on ideophones (4.1.) is rather disappointing. Ideophones are described as if they existed outside of the systematic part of the language. That is, the questionnaire does not ask for the way in which emphatic forms are integrated into the phonological system of the language. In this respect, phenomena such as the productive emphatic reduplication with systematic phonological variations in the reduplicated form (of the type *ev mev* 'house(s) and the like'; cf. Tietze 1953) might have been interesting, or the combination of lexical and phonological variation in the form of frozen binominals (of the type *hayal meyal* 'evanescent', *çoluk çocuk* 'household'). But the absence of these topics does not come as a surprise. Linguistic descriptions usually concentrate on what is in the focus of contemporary research. In pre-structuralistic descriptions, we find a dominance of lexicology, morphology and phonology, while the syntax is neglected; in contemporary structure-oriented approaches, syntax is given more weight, but those dimensions of language are neglected which are difficult to systemize within the framework of current theories. The questionnaire on which *Turkish* is based, and, therefore, *Turkish* itself, are no exceptions to this tendency.

3. The authors of the questionnaire, Bernard Comrie and Norman Smith, wanted "the general direction of description within the questionnaire" to be "from function to form" (Comrie & Smith 1977: 8). The structure of the questionnaire is not as radical in its "function-to-form" approach as it could be.[4] Nevertheless, the emphasis on functional domains, especially in the syntax chapter, allows Jaklin Kornfilt to illustrate the complex interplay of different formal devices in an elaborate and highly successful way.

On the other hand, the emphasis on "function to form" is disadvantageous when one is interested in the way forms serve different kinds of functions. The authors of the questionnaire saw the solution to this problem in an index of forms "enabling the reader to go equally from form to function" (Comrie & Smith 1977: 8). For example, if I want to learn something about the functional load lying on word order in Turkish, then this index may be used by intensive cross-referencing, allowing me to move from one place where word order is mentioned in the fulfillment of a certain function to the next. Another possibility could have been an index listing all forms mentioned and the places where they appear in the book. Instead of being a mere convenience for the reader, cross-referencing and indexing would then form an essential part of the description as the "other half", so to speak, or the form-to-function part.

Unfortunately, this task is not effectively fulfilled by the index in *Turkish*, nor by any other of the books in the series. For example, my question about the function of word order in Turkish is simply left unanswered: "word order" (or "constituent order") is neither an item in the index nor does it form a section in the book. Of course, it is treated in various places in the syntax chapter. But since the cross-referencing is equally unsatisfactory, I would have to read the entire chapter in order to collect a "catalogue" of the functions of word order in Turkish.

4. Conclusion

We could go on discussing the book as one of its numerous merits is the fact that it is thought-provoking. Jaklin Kornfilt has an exquisite knowledge of the language and is a theoretical linguist. Most of the time she resists the temptation of rounding off the edges where this might give the work a smoother finish. Thus, *Turkish* demonstrates the richness of the grammar of Turkish while at the same time making it accessible to comparative investigations. In this way *Turkish* achieves its aim of

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[4]   For example, the basic divisions of the questionnaire are again form-based ("Syntax", "Morphology", ...). See Mosel (1987: 52-55) and Lehmann (1989: 144-148) for discussions.

bridging the gap between traditional viewpoints and modern linguistic theory. Jaklin Kornfilt is to be congratulated for an outstanding achievement which is bound to become a key reference grammar for both comparative linguists and linguistic Turcologists. *Turkish* deserves a place in the library of every linguistic department.

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This book which presents itself as a book on the Turkic languages is in fact much
more. It is an excellent compact introductory work on Turcology, including very
good concise chapters on the speakers of Turkic languages; a historical sketch of the
Turkic peoples, one on Turkic writing systems (to which some of the current alpha-
bets of several Turkic languages are given in the *Appendix* to the book), and general
Turkic linguistic chapters on the structure of Turkic; on the reconstruction of proto-
Turkic and the genetic question; and on the history of Turkic. It is not before page
138 that, with the description of Old Turkic, discussions of individual Turkic lan-
guages begin. The whole book is very well and clearly written, and constitutes an
outstanding introductory textbook for students of Turcology and Altaic studies. The
table of the speakers of Turkic languages in the various relevant countries, and the
list of the large numbers of tables of grammatical and other elements included in the
book add to the user-friendly nature of the book. As is stated in the *Preface*, it differs
from previous surveys of the Turkic languages by trying to meet the requirements
not only of Turcologists, but of a variety of readers, such as those without a previ-
ous knowledge of Turcology, among them general linguists, typologists, historical
linguists, and others. The theoretical basis is relatively neutral. To this it may be
added as an important valuable feature, in which it differs from some other introduc-
tions to Turcology, that the descriptions of the various Turkic languages do not
follow a general entirely rigid pattern strictly applied to all the languages, but each
of them tends to be an individual description in the light of features of each lan-
guage. However, a similar range of core features is presented in every description,
more or less in the same order, which facilitates the comparison of such features in
different languages. A commendable feature of the descriptions is the avoidance of
excessively technical language and terminology, which will be welcomed by readers
who lack specialized knowledge of Turcology and Altaic studies. Another point to
be welcomed by non-specialists is the use of names for the various Turkic languages
which reflect the common general usage in the world, not the names increasingly

employed in specialist Turcological literature, e.g. Yakut instead of Sakha, Kirghiz instead of Kyrgyz, etc.

Hendrik Boeschoten's general chapter on the speakers of Turkic languages constitutes a good overview. The facts that there is no automatic match between ethnic groups and languages and that boundaries may be very ill-defined are pointed out. The abovementioned table of speakers of Turkic languages is found in this chapter. Boeschoten points out that, while the numbers of speakers mentioned give a fair indication of first-language speakers, they may well be subject to revision. There are gaps in the material, e.g. for Turkey, no statistics exist about small refugee groups who speak Turkic languages other than Turkish.

Peter Golden's historical sketch of the Turkic peoples makes excellent reading as a concise overview of historical events which constitute necessary knowledge for anyone interested in the Turkic linguistic and general world.

Lars Johanson's extensive chapter on the structure of Turkic, which gives a fairly detailed account of the phonological, morphological and syntactic features of the Turkic languages, will be of particular interest to non-Turcologist linguists who look to this book as a source of concise general information on the nature, patterns and typology of the Turkic languages.

András Róna-Tas's chapter on the reconstruction of proto-Turkic and the genetic question is introduced by a definition of proto-language and of proto-Turkic, including its possible original homeland, followed by a well-presented sketch of proto-Turkic. In the section on proto-Turkic and the genetic question, the author adopts a well-argued, very cautious view of the question of a possible genetic relationship between Turkic and Mongolian and even more so of the Altaic hypothesis.

Lars Johanson's very extensive chapter on the history of Turkic consists of a concise first section describing the historical development of the present differentiated picture of several groups of Turkic languages from a proto-Turkic unity, followed by a very detailed long section on diachronic phonology which also includes the phonological adaptation of lexical borrowings. A shorter section deals with the historical development of morphology and a brief section is devoted to the lexicon from a historical point of view. The chapter is highly informative, and together with the chapter on the reconstruction of proto-Turkic preceding it, constitutes an excellent introduction to Turkic historical linguistics.

András Róna-Tas's chapter on Turkic writing systems offers a discussion of systems used for Old Turkic which are of Semitic or Indic origin, of systems used for Middle Turkic, and of systems used for modern Turkic languages. Of the latter, the Arabic script has been almost completely abandoned now. One notable exception is Modern Uyghur in China for which a new system of Arabic script has been developed in which all vowels are written. For most Turkic languages, the Cyrillic script

has been in use during the last half century or more, though some languages (e.g. Turkmen and Uzbek) have now changed to Latin alphabets, and several other republics in the area of the former USSR have plans to adopt the Latin script as well. In the 1920s and early 1930s, several Turkic peoples of the then USSR had developed Latin alphabets but were forced to replace them by Cyrillic. Turkish, for which an Arabic alphabet had been in use, switched to a modified Latin alphabet as from 1928. It might have been desirable to add a few script specimens, especially of those employed for Old Turkic and Middle Turkic.

Then follow descriptions of individual Turkic languages, the first being a fairly detailed description of Old Turkic by Marcel Erdal. This is the Turkic language documented by texts and other materials dating from the seventh to the thirteenth centuries AD, in runiform, Old Uyghur and other scripts. It was spoken in parts of present-day Mongolia, northwest China and the Karakhanid state further west. The second description of Turkic languages no longer spoken today is a relatively brief one of Middle Kipchak by Árpád Berta. It summarizes the major features of Kipchak dialects spoken between the thirteenth and sixteenth centuries in the South Russian steppe and in the Near East. This is followed by a somewhat longer description of Chaghatay by Hendrik Boeschoten and Marc Vandamme. Chaghatay can be described as a succession of stages of written Turkic, as the high literary language of the fifteenth and sixteenth centuries in Central Asia. In its focal area it represents previous stages of the Uzbek and Uyghur written languages, though it had certain special characteristics such as a complex syntax copied from Persian. The chapter describes characteristics of the classical period of Chaghatay, without mentioning too much the variations found in the sources for it. The last chapter dealing with a Turkic language no longer spoken today is the one on Ottoman Turkish by Celia Kerslake. This was the official and literary language of the Ottoman Empire, a variety of West Oghuz Turkic, from about 1300 to 1928. The author gives a survey of its historical development and its subdivision into three diachronic phases: *Old Ottoman*, from the thirteenth to the fifteenth centuries—a language clearly different from modern Turkish in some respects. *Middle Ottoman* in the sixteenth to eighteenth centuries—a language overloaded with Arabic and Persian lexical elements, morphological elements and sub-clausal syntactic structures, while at the same time, its use of native Turkish subordinate syntactic structures increased at the expense of Persian ones. *New Ottoman*, in structure was in many respects very similar to Modern Turkish, but still abounded in Arabic and Persian elements. The description of the language itself, Persian-type clauses and nominal phrases, the syntactic role of Arabic verbal nouns, as well as the Turkification of Ottoman syntax in the closing years of the Ottoman era, also receive attention.

The first of the chapters dealing with contemporary languages is Éva Csató's and Lars Johanson's excellent detailed presentation of Turkish. This is followed by a chapter on Turkish dialects by Bernt Brendemoen. This chapter certainly adds to the great value of the book, as this subject is rarely dealt with separately in a compendium volume like this one. It is unfortunate, however, that the Balkan and Thracian dialects have not also been dealt with.

The short chapter, also by Brent Brendemoen, on the Turkic language reform, is also a most welcome addition to the book. It is of considerable interest to people who have learned or intend to learn Turkish with the help of older textbooks at their disposal which would make them acquire lexical items which are no longer in general use.

The various language descriptions that follow in the book are in geographical order and at the same time, they very largely follow the classification of Turkic languages into the Oghuz, Kipchak, Uyghur, Siberian and Oghur branches. Therefore, the language descriptions following those of Turkish also belong to the Oghuz branch, i.e. Azerbaijanian, the Turkic languages of Iran, and Turkmen.

The description of Azerbaijanian is by Claus Schönig. The language is very closely related to Turkish, with a very high degree of mutual intelligibility. It is regarded by some scholars as one of the Turkish dialects extending from the Balkans to the Caucasus and into Iran. Since 1991, Azerbaijanian has been written in a modified Latin alphabet. The description of Azerbaijanian is followed by a description of Turkmen, also by Claus Schönig. The language is not readily mutually intelligible with Turkish and Azerbaijanian, in part for phonetic reasons, i.e. the presence of long vowels and the interdental articulation of *s* and *z*. Both descriptions are concise.

The next description of the Turkic languages of Iran, by Gerhard Doerfer, reports on the findings of the Göttingen expeditions between 1968 and 1976 whose results very substantially changed and clarified the Turkic language situation in Iran. The extent of the Azerbaijanian dialects area was clarified, as was that of other Oghuz dialects, now referred to as Southern Oghuz, and previously unknown Turkic dialects of the Khorasan area were discovered. Dialects in Northern Khorasan were previously believed to be Turkmen, but are now known to be Khorasan Turkic (or East Oghuz) dialects, and different from Turkmen. At the same time, the results of the expeditions, which produced good information on the Khalaj language in Central Persia, showed it to constitute an additional branch of Turkic and thus altered the classification of Turkic languages. Khalaj is now regarded as having split off from common Turkic as a separate Turkic branch before the latter split up, but its splitting-off postdated that of the splitting-off of the Oghur branch from common Turkic. In his description, the author briefly presents features of South Oghuz, mentions historical and demographic facts relating to the Turkic languages of Iran, lists differences be-

tween the Oghuz dialects, and finally presents a few features of Khalaj which has been heavily influenced by Iranian and Tati, but has preserved some very archaic Turkic features.

The next description, that of Tatar and Bashkir by Árpád Berta, is the first of five devoted to languages of the Kipchak branch of Turkic languages. Tatar and Bashkir are closely related. The description constitutes a fairly detailed account of both.

The next description is that of the West Kipchak languages, i.e. Kumyk, Karachay-Balkar, Crimean Tatar, and Karaim, also by Árpád Berta. This is a general concise account of these four very similar languages.

This is followed by a description of Kazakh and Karakalpak by Mark Kirchner which essentially deals with Kazakh, mentioning some of the differences of the very closely related Karakalpak on the final half-page.

The next one is a concise description of Noghay by Éva Csató and Birsel Karakoç. The main part of the language is spoken between the Caucasus and the Volga.

The last of the Kipchak branch languages, Kirghiz, is described by Mark Kirchner. Kirghiz is closely related to Kazakh, but has also strong genetic bonds with the Siberian branch of Turkic languages, particularly with the Altay Turkic languages.

The Uyghur Turkic branch languages come next, with Hendrik Boeschoten's description of Uzbek the first of two. After Turkish, Uzbek is the second most important Turkic language. As a literary language, it is the continuation of Chaghatay. Since 1993, a Latin alphabet has been in use for it. The description is fairly detailed, as may be expected, considering the importance of Uzbek.

This is followed by a description of Uyghur by Reinhard Hahn. This is modern Uyghur, formerly known as Eastern Turki. Most Uyghur speakers live in China in Xinjiang where it is the second official language and also a regional inter-ethnic lingua franca. A number of Uyghurs live in the Kazakh republic and elsewhere. Uyghur is very closely related to Uzbek, with a very high degree of mutual intelligibility between them. Uyghur is the only Turkic language today to be written with a modified Arabic alphabet which indicates all the vowels. Dialect differentiation is considerable. The description is rather detailed.

The next chapter deals with Yellow Uyghur and Salar, again authored by Reinhard Hahn. Yellow Uyghur is located in Sunan county in northwestern China and, in spite of its name, belong to the Siberian branch of the Turkic languages. The author points out that there are significant inconsistencies and discrepancies in the few published descriptions of this little studied language, and unfortunately, gives no information on its morphology and syntax, except mentioning that there are some significant morphological simplifications in it. Salar is spoken further southeast in Gansu and appears to be historically developed from an Oghuz Turkic language which during its eastward migration acquired influences from the Uyghur and Kip-

chak branches of Turkic languages and other languages. The author mentions results of such influences, but again provides no details of morphology and syntax except for saying that there are various types of simplification in Salar morphology. This lack of information on the morphology and syntax of these two languages, even if it were highly tentative and pointed out contradictions in sources, is one of the very few shortcomings of this otherwise so highly informative excellent book.

The next chapter, by Claus Schönig, deals with South Siberian Turkic which can be divided into four main branches: Altay, Yenisey, Sayan and Chulym Turkic, each of them comprising several languages and / or dialects. These languages show numerous common features, but differ considerably in detail. Several of the languages exhibit ties with outside Turkic languages, e.g. Altay Turkic has close ties with Kirghiz, Sayan Turkic has features bringing it closer to Yakut, etc. The description is fairly detailed and represents a general account of languages of the four branches of South Siberian Turkic.

. The next chapter, by Marek Stachowski and Astrid Menz, is a description of Yakut which constitutes, with the closely related Dolgan language, the North Siberian division of Siberian Turkic. The Yakut language is aberrant in containing a set of phonological and morphological classificatory features that distinguish it from all other Turkic languages, and heavy lexical influences from Mongolic (in particular Buryat), Tungusic and Yeniseian languages, with only about 30 per cent of its vocabulary derived from Turkic. The vowel harmony is very complex, and the consonants undergo progressive and regressive assimilation at morpheme boundaries. The description is rather detailed, especially on the syntactic and sentence levels, and allows good insights into this complex language.

The last chapter is a rather detailed account, by Larry Clark, of Chuvash, the only surviving member of the Oghur or Bulghar Turkic, the first Turkic branch to split off from Common Turkic in the remote past. Chuvash has developed from proto-Turkic through a series of sound changes and replacements which, together with the assimilations of the Finnic Mari language, obscure the Turkic character of its morphosyntax and lexicon. The description is rather detailed and allows good insights into the language.

The descriptions are very informative and present an up-to-date survey of current knowledge in the fields covered. They are followed by an extensive, very useful index.

All in all, this is a magnificent book highly recommended to anybody with an interest in Turkic languages and Turcology.