

Gender as an inflectional category¹

ANDREW SPENCER

University of Essex

(Received 8 January 2001; revised 2 August 2001)

Russian adjectives, especially participles, can be used as nouns denoting people, e.g. *bol'noj/bol'naja* '(male/female) patient' from *bol'noj* 'sick', *učaščijsja/učaščajasja* '(boy/girl) pupil', participle from the verb *učit'sja* 'to learn, study'. These are unusual in that they formally reflect the sex of their referent by means of inflectional morphology. Moreover, many surnames inflect like adjectives and they, too, inflect for gender: *Mr. Puškin, Čexov, Tolstoj, Dostoevskij* but *Ms. Puškina, Čexova, Tolstaja, Dostoevskaja*. Lexemes such as 'patient, pupil' are genuine nouns and not just adjectives modifying null nouns. The latter type do exist and have different properties from converted nouns. Converted nouns and adjectival surnames thus form systematic gender pairs which are forms of a single lexeme. However, gender is not conventionally regarded as an inflection category of the kind which induces word forms of lexemes in this way, rather it is an inherent 'classificatory' property of nouns. The paper discusses the peculiar nature of this type of inflectional marking and provides an explicit analysis of the construction. On the semantic side, nouns such as *bol'noj, učaščijsja* have a similar representation to that of a phrase *person who is sick/studies* and we effectively have an instance of the poorly researched phenomenon of de-phrasal word formation. On the morphosyntactic side, the lexical entry of the deadjectival noun or surname shares crucial properties with 3rd person pronouns. The analysis raises questions about the nature of lexical categories (especially 'mixed categories') and the structure of lexical entries generally.

[1] This paper arose out of a project supported by the Economic and Social Research Council, R000236115 (see note 2). The paper was presented at the Spring Meeting of the Linguistics Association of Great Britain, 6–8 April, 2000, University College London. I am grateful to Marina Zaretskaya for informant judgements and to two *JL* referees for comments which helped substantially improve an earlier version.

I provide a broad transcription of Russian words, in which a palatalized consonant is indicated by '. Palatalization after /e/ is (almost) completely regular and so I do not indicate it. Following Slavistic practice 'c' is an alveolar affricate /ts/, 'č' is a palato-alveolar affricate /tʃ/, 'š' and 'ž' are, respectively, voiceless and voiced palato-alveolar fricatives /ʃ/ and /ʒ/. The vowel 'i' after a non-palatalized consonant is pronounced as a high unrounded central vowel /i/ and as /i/ elsewhere (including after velar consonants). Abbreviations used in glosses are as follows: NOM 'Nominative', ACC 'Accusative', GEN 'Genitive', SG 'Singular', PL 'Plural', MASC 'Masculine', FEM 'Feminine', NEUT 'Neuter', REFL 'Reflexive'. As far as possible, I abide by the convention that names of morphosyntactic properties are given initial capitalization when they name features in an individual grammar but remain uncapitalized when they denote a generic grammatical phenomenon.

1. INTRODUCTION

Many languages regularly exhibit sex-marked pairs such as *lion* ~ *lioness*, *waiter* ~ *waitress*, *aviator* ~ *aviatrix*. Such pairings are uniformly taken to be instances of derivational morphology by those who distinguish inflection from derivation. This means that *lion* and *lioness* are two distinct, if closely related, lexemes (lexical entries). At the same time, such languages may exhibit gender. This, as Corbett (1991: 1) remarks, is a most puzzling category.² It isn't a meaning-bearing inflectional category like tense or number, nor is it a purely formal inflectional category marking dependencies between words, such as agreement or the purely syntactic use of cases. Nor should gender be confused with inflectional class (declension). Thus, although most nouns in the *-a* class in Russian are Feminine, some, like *mužčina* 'man', are Masculine. Gender always seems to have some kind of semantic basis (e.g. sex) but here again mismatches occur, so that the German or Greek words for 'girl' turn out to be Neuter in gender, not Feminine. At the same time, gender isn't a derivational category either. Rather, gender functions to divide up the lexicon (particularly the nouns) into classes which govern agreement. It is thus regarded as a classificatory feature.

Because gender isn't an inflectional category it doesn't induce sets of forms of a single lexeme. This means that nouns do not form 'gender pairs', in the same way that nouns form singular-plural pairs. This is generally taken to be true even in languages (such as Dutch, van Marle 1985) in which there are very strong paradigmatic pressures for nouns denoting sexable entities to have different forms to denote male and female. Lexical relatedness of this sort is not usually regarded as inflectional. This paper investigates one curious exception to this picture, which seems to have gone unremarked in the recent theoretical literature. In the inflecting Indo-European languages it is common to find that an adjective can be used as a noun. Adjectives generally agree in gender with the nouns they modify. When an adjective is used as a noun and the referent is animate (or human) we typically find that the gender agreement morphology is taken over to denote the sex of the referent. Setting aside irrelevant pragmatic and other extragrammatical considerations, it can be shown that such a converted noun obligatorily signals the sex of the referent in this way, suggesting that the gender marking is an inflectional category.

In Russian this patterning is particularly clear with those surnames which decline like adjectives, but it can be seen with other types of noun. Thus, the

[2] Corbett regards it as THE most puzzling grammatical category. In this respect it competes with verbal aspect. This study arose (believe it or not) out of a study of Russian verbal aspect. Padučeva (1996: 84–87) compares aspect with gender, claiming that they are examples of the same kind of classificatory category. This struck me as implausible because of the absence of gender pairs which might correspond to Slavic aspectual pairs. The existence of gender pairing under the very specific circumstances described in this paper serves as an instance of the exception proving the rule.

adjective *bol'noj* 'ill, sick' is regularly used as a noun meaning 'patient'. It then has to assume either the Masculine or the Feminine adjectival agreement inflections depending on the sex of the patient. The regularity is very marked with participles, because these are adjectives which readily convert into nouns. Provided we can show that the adjective in such cases really has been converted into a noun and isn't still categorially an adjective in the syntax, this gives us an instance of rule-governed gender-pairing. We end up with a systematic subset of nouns which have to be INFLECTED for gender, even though gender is not a category of the sort for which nouns can inflect.

The existence of such converted deadjectival nouns poses a number of intriguing problems for linguistic theory. These nouns raise questions about the lexeme concept and the inflection-derivation distinction, about the nature of the gender category itself, and about the nature of grammatical and lexical categories. They also raise important technical questions for grammar writing: how exactly do we derive such nouns? I discuss a number of these questions in varying degrees of depth, basing myself mainly on Russian. In section 2, I survey the category of gender itself. In section 3, I present an overview of Russian noun and adjective morphology, and offer a typology of the different sorts of deadjectival noun formation in section 4. Section 5 expands on the non-existence of 'gender-pairing', providing arguments which show that Russian nouns are not normally paired, and arguing that the deadjectival nouns are a subtype of Common Gender noun. In section 6, I provide a description of the semantic representations of converted nouns while section 7 develops a formal account of the morphological aspects of lexical representation. The key to the behaviour of converted nouns like *bol'noj* is to give them a lexical representation similar to that of 3rd person pronouns. Section 8 presents summary conclusions.

2. GENDER

There are two sides to gender. On the one hand, the gender of a noun is some inherent property of that noun, associated with its meaning ('natural gender'), its phonological form, its morphology, or simply an arbitrary lexical property. On the other hand, we are only aware of genders in a language because each gender triggers its own pattern of agreements on various types of target (modifiers, predicates, pronominals) so that gender features must by definition manifest themselves on the agreement targets.

Gender is sometimes described as a classificatory inflectional property of nouns (see, for instance, Zaliznjak 1967 for Russian). This means that gender is not what Booij (1994) refers to as 'inherent inflection', a semantically interpretable inflectional feature, though gender class membership may be determined by or affected by meaning. Nor is it a purely formal feature (Booij's 'contextual inflection') since it will not necessarily have any formal

marking of any sort on the nouns which bear it. On the other hand, gender marking on agreement targets such as adjectives is the canonical case of Booiĵ's contextual inflection. Those agreement markers lack semantic interpretation and their role is the purely formal one of marking syntactic dependencies.

There is one way in which gender could function as an inflectional category, more akin to number or tense, and that is if nouns could be systematically paired for gender. However, gender systems don't work this way. This is because gender systems tend to be based on conceptual categories such as animacy, humanness, sex or various physical characteristics of objects, and these characteristics tend not to be distributed across nouns in a manner which lends itself to paradigmatic organization. The most obvious exception to this is sex. Sex-differentiable entities form pairs (in morphology as in life), so that in principle languages can mark all sex-differentiated nouns as morphologically Masculine or Feminine. Thus, 'boy/girl' might etymologically be 'child.masc/child.fem', and if this were found systematically for all sex-differentiable nouns we would have a genuinely inflectional category of gender. Something reminiscent of this is occasionally seen. Thus, Latin 'friend' has two forms *amicus* 'male friend' and *amica* 'female friend'. However, this patterning is the exception rather than the rule, in Indo-European, and generally.

This is the standard situation. However, there is one interesting subset of nouns referring to humans in which gender appears to be marked systematically throughout Indo-European. Many languages regularly permit adjectives to be converted into nouns. When a language with sex-based gender does this there is a strong tendency for the transposed adjectives to reflect gender differentiation systematically, by using agreement morphology as an exponent of gender. In effect, this means that the exponent of agreement, 'contextual inflection' par excellence, gets reanalysed as the exponent of an inherent lexical property, 'classificatory inflection'. In this paper, I shall discuss the situation in Russian, which puts adjectives to a particularly varied set of nominal uses allowing scope for illuminating comparison.

3. RUSSIAN DECLENSION³

In table 1, I provide sample paradigms for the two main declensional classes, the default Class 1, associated exclusively with Masculine nouns, and Class 2, mainly (but not exclusively) populated with Feminine nouns.

Adjectives agree with nouns in Number, Case and Gender. In the Singular, there are three inflectional classes corresponding exactly to the three genders.

[3] For a complete survey of Russian nominal inflection see Zaliznjak (1967) or Zaliznjak (1977).

GENDER AS AN INFLECTIONAL CATEGORY

	Class 1	Class 2
	mal'čik 'boy'	devuška 'girl'
SINGULAR		
Nominative	mal'čik	devuška
Accusative	mal'čika	devušku
Genitive	mal'čika	devuški
Dative	mal'čiku	devuške
Instrumental	mal'čikom	devuškoj
Prepositional	mal'čike	devuške
PLURAL		
Nominative	malčiki	devuški
Accusative	malčikov	devušek
Genitive	malčikov	devušek
Dative	malčikam	devuškam
Instrumental	malčikami	devuškami
Prepositional	malčikax	devuškax

Table 1
Noun declension

	Masculine	Feminine	Plural
Nominative	bol'noj	bol'naja	bol'nye
Accusative	bol'nogo	bol'nuju	bol'nyx
Genitive	bol'nogo	bol'noj	bol'nyx
Dative	bol'nomu	bol'noj	bol'nym
Instrumental	bol'nym	bol'noj	bol'nymi
Prepositional	bol'nom	bol'noj	bol'nyx

Table 2
Adjective declension (*bol'noj* 'ill, sick')

Russian has no gender distinctions in the plural. A typical paradigm for *bol'noj* 'ill, sick', with agreement inflection for animate nouns (i.e. ignoring Neuter Gender), is shown in table 2.

There is another adjectival declensional class, represented by possessive adjectives derived from nouns. The type of interest to us is the one derived from common or proper nouns referring to people: *papa* 'Daddy', *papin* 'Daddy's'; *Maša* 'Masha (proper name, diminutive of *Marija*)', *mašin* 'Masha's'; *otec* 'father', *otcov* 'father's'; *Ivan* (proper name), *ivanov*

'Ivan's'. The suffix *-in* is added to Class 2 nouns, irrespective of their gender, while the suffix *-ov* is added to Class 1 nouns (though it now has limited productivity). The declension pattern of the possessive adjectives is slightly different from that of standard adjectives in that it borrows some forms from the Noun paradigms, as can be seen from table 3.

	Masculine	Feminine	Plural
Nominative	papin	papina	papiny
Accusative	papinogo	papinu	papinyx
Genitive	papinogo	papinoj	papinyx
Dative	papinu	papinoj	papinym
Instrumental	papinym	papinoj	papinyxi
Prepositional	papinom	papinoj	papinyx

Table 3
Possessive adjective declension (*papin* 'Daddy's')

The declension of the *-ov* adjectives is to all intents and purposes identical to that of *-in* adjectives.

The *-in* possessive is still widely used (see Kopčevskaja-Tamm & Šmeljov 1994). However, the importance of the possessive declension type to us is that it forms the basis of the declension of a large class of surnames derived historically from such adjectives. Table 4 gives the declension pattern for the

	Masculine	Feminine	Plural
Nominative	Puškin	Puškina	Puškinj
Accusative	Puškina	Puškinu	Puškinjx
Genitive	Puškina	Puškinoj	Puškinjx
Dative	Puškinu	Puškinoj	Puškinym
Instrumental	Puškinym	Puškinoj	Puškinymi
Prepositional	Puškine	Puškinoj	Puškinjx

Table 4
Surname declension

name *Puškin(a)*, from which it can be seen that the surnames are identical to the possessive adjectives except for the Masculine Accusative/Genitive and Prepositional forms (which are taken from the Noun paradigm).

Finally, there is a set of personal pronouns in Russian bearing features of Person, Number, Case and Gender. The 1st/2nd person pronouns are not distinguished for gender and so are not of interest to us here. The 3rd person pronouns distinguish all three genders, reflecting their origins as demonstrative adjectives. They are shown in table 5, ignoring the Neuter forms,

	Masculine	Feminine	Plural
Nominative	on, tot	ona, ta	oni, te
Accusative	jego, togo	jejo, toj	ix, tex
Genitive	jego, togo	jejo, toj	ix, tex
Dative	jemu, tomu	jej, toj	im, tem
Instrumental	im, tem	jej, toj	imi, temi
Prepositional	njom, tom	nej, toj	nix, tex

Table 5

Personal pronouns: third person (*on* 'he') and demonstratives (*tot* 'that')

together with the demonstrative adjective/pronoun *tot* 'that' (with animate antecedent).

There are two points to make about noun and adjective declension. First, although there is some similarity in some of the endings, the morphological exponents are different for the two lexical classes. Second, there is no trace in ordinary (non-possessive) adjectives of an inflectional class system of the kind found with nouns, or of the kind found, say, with Latin adjectives (see Corbett 1991: 133). Effectively, all non-possessive adjectives decline the same way and choice of inflectional subparadigm is governed by the gender of the word which the adjective modifies. Moreover, the inflectional class of the noun has no direct effect on the declension of the adjective which agrees with it. This is evident when we take a Masculine noun from the 'Feminine' Class 2 such as *mužčina* 'man': *bol'noj* (**bol'naja*) *mužčina* 'the sick.masc.nom.sg man.nom.sg', *ot bol'nogo* (**bol'noj*) *mužčiny* 'from the sick.masc.gen.sg man.gen.sg'.

4. SUBSTANTIVIZATION OF ADJECTIVES

4.1 Four types of substantivization

A detailed list of the main ways in which a Russian noun can be declined like an adjective is provided in handbooks such as the 1970 Academy Grammar (1970: 239–242), the 1980 Academy Grammar (1980: 503–504) and Isačenko (1962: 171f.). There are four distinct situations in which this appears

to happen on the surface, in one of which the adjective remains an adjective. These four cases are:

- (i) Adjectives modifying zero anaphora
- (ii) Adjectives with (apparently) elided head nouns
časovoj 'sentry', *vannaja* 'bathroom', *stolovaja* 'dining room; restaurant'; *nasekomoe* 'insect'; *naličnye* 'cash', *rodnye* 'relatives', *novobračnye* 'newly weds'
- (iii) Surnames
Tolstoj/Tolstaja, *Dostoevskij/Dostoevskaja*, *Čexov(a)*, *Puškin(a)*
- (iv) Deadjectival converted nouns (substantivized adjectives, including participles)
 Adjectives: *bol'noj/bol'naja* 'ill, sick', *provožatyj/provožataja*, 'accompanied' (also included here are pronominal adjectives (or adjectival pronominals) such as *každyj* 'each', *vsjakij* 'any, every', *ljuboj* 'any', *voj* 'one's own', and the demonstratives *ëtot* 'this' and *tot* 'that')
 Participles: *obvinjaemyj* 'accused', *arestovannyj* 'arrested, detainee', *prisutstvujuščij* 'one present'; *soderžimoe* 'contents', *skazannoe* 'that which was said' (the last two Neuter in form)

Let's consider each of the four cases in turn.

(i) Zero anaphora

In general nouns modified by adjectives can be elided if they are recoverable from the context:

- (1) Podjexali dve mašiny. V beloĵ sidel Ivanov.
 drove.up two cars(FEM) in white.FEM.PREP.SG sat Ivanov
 'Two cars drove up. In the white one sat Ivanov.'

I shall treat these as cases of zero anaphora, in which the head is null and the adjective is in all respects an adjective agreeing as though with an overt noun head. These cases are interesting in that the speaker has to decide on the gender of the elided noun, but they are not relevant to our present concerns, except inasmuch as it is necessary to distinguish other cases from them.⁴

(ii) Elliptical substantivization

The second class of nouns with adjectival declension are those which are etymologically truncated adjective + noun phrases. There is a fair number of such nouns of all three genders (including some pluralia tantum, such as

[4] They are also interesting from the point of view of syntactic theory in that we need to determine exactly what the empty category is (see Kester 1996, especially chapter 4, for some discussion, and also Giannakidou & Stavrou 1999). This is not relevant to our problem, however.

naličnye ‘ready cash’). Although it is not difficult to identify (or at least guess at) the elided noun in many cases, in others it is not clear what the origin is. In any case, these are often completely lexicalized words, and not substantivized adjectives of the kind illustrated in (iv) below. Thus, *stolovaja* ‘dining room, eating house’ is morphologically the Feminine form of the adjective *stolovyj*, which itself is a relational adjective from *stol* ‘table’. This adjective is still in use (*stolovaja sol’* ‘table salt’). However, the dining room of a house would not normally nowadays be referred to as *stolovaja komnata* ‘table room’ (even though this is presumably the historical origin). The word *stolovaja* has undergone semantic drift and now also refers to a café, canteen or restaurant. It is not entirely clear what the generic term would be in Russian for such an institution (*restoran* ‘restaurant’? *stolovaja* itself?), but whatever the term is it doesn’t seem to be Feminine in gender, so there would be no way to account for the form (and gender) of the ‘eating house’ use if we didn’t simply take it to be a noun which has the declension pattern of a (Feminine) adjective. Matters are not always so straightforward, to be sure. Thus, *vannaja* ‘bathroom’ is the relational adjective from *vanna* ‘bath’. In this case, however, the expression *vannaja komnata* is still current. Thus, *vannaja* could be analysed either as a case of zero anaphora or as an adjective+noun phrase with elided head. This kind of vacillation is uncommon, however.

As the 1970 Academy Grammar notes (1970: 240), this type of formation is very common in the colloquial language, where the head noun can easily be recovered from the context, as in *skoryj (poezd)* ‘fast (train)’, *vyhodnoj (den’)* ‘(day) off’, *russkij (jazyk)* ‘Russian (language)’. It is even possible to substantivize two adjectives in a phrase this way as in *Velikaja Otečestvennaja (Vojna)* ‘Great Patriotic (War)’⁵.

(iii) Surnames

Since Russian surnames are frequently adjectival in form they show gender marking depending on the sex of the bearer of the name. Thus, it would be a grammatical error to refer to the wife, daughter or sister of a Mr. Puškin as *Puškin* rather than *Puškina*.

(iv) Deadjectival noun conversion

The fourth type consists of those adjectives which are simply transposed into nouns and which lack the syntactic properties of [Adjective + Noun] phrases. This seems to be overwhelmingly the case with the substantivized participles. It would be very unidiomatic to replace, say, *obvinjaemyj* ‘accused’ with *obvinjaemyj čelovek* ‘accused person’ or whatever. In the case of Neuter participles it is quite unclear what the elided head noun could even be:

[5] 1941–1945.

skazannoe 'that which has been said', *proiššedšee* 'the past'. Borrás & Christian (1971: 98) point out that a converted noun often has a generic interpretation (what they refer to as an 'abstract individual') as in (2).

- (2) Bogatyj inogda zabyvaet bednogo.
 rich.NOM.SG.MASC sometimes forgets poor.ACC.SG.MASC
 'The rich man sometimes forgets the poor man.'

This, too, militates against a zero anaphora analysis since there is no source in the discourse for the covert head.

4.2 Morphosyntactic differences

It is not always easy to distinguish between these four different types. Since most of these words coexist with homophonous adjectives, it is necessary to differentiate the properly substantivized adjective from the case of zero anaphora. I shall illustrate this by comparing the various usages of the word *bol'noj*. In its primary use this is an adjective meaning 'ill, sick'. In (3) we see it used with zero anaphora.

- (3) Nedavno vse devočki v klasse pereboleli grippom,
 recently all girls in class fell.ill with.flu
 a samaja **bol'naja** eščo ne xodit v školu.
 and most sick still not go to school
 'Recently, all the girls in the class went down with flu, and the worst affected still isn't attending school.'
 (Cf. *samaja bol'naja devočka* 'the most sick girl')

However, *bol'noj* is also used as a substantivized adjective, when it is best translated as 'patient'. It is therefore possible to imagine a conversation such as (4) amongst medical staff checking through medical records.

- (4) Ètot bol'noj eščo bolen, a èti bol'nye uže vyzdorovali.
 this sick still sick but these sick.PL already recovered
 'This patient is still sick, but these patients have already recovered.'

Here, *bol'noj* in the first and third occurrences is fully equivalent to the noun *pacient* 'patient'.⁶

More difficult, perhaps, is distinguishing substantivized adjectives from cases of elliptical substantivization. The case of *bol'noj* 'patient' illustrates this. One might imagine that this could be interpreted as *bol'noj čelovek* 'sick

[6] Interestingly, substantivized *bol'noj* retains a semantic link with its adjectival origins, which means that it is not fully synonymous with *pacient*. Thus, a doctor could say of someone: *On moj pacient, no on nikogda v žizni ne boel i poèтому on nikogda ne obraščalsja ko mne* 'He's my patient, but he has never been ill in his life, and therefore he's never come to see me'. This would be impossible with *bol'noj*, which implies that a patient has at some time been ill/injured.

person' and this would work in a fair number of contexts. However, example (4) above shows that this is not possible, since one cannot simultaneously predicate of someone the phrase *bol'noj čelovek* 'sick person' and *uže vyzdorovel* 'already recovered'.

A further indication that we are dealing with genuine conversion comes from the behaviour of comparative and superlative forms of adjectives. The most productive way of comparing adjectives is by adding *boleē* 'more': *boleē bol'noj* 'sicker'. The superlative can be formed either with the adjectival form *samyj* 'most' or by prefixing *nai-* to *boleē*: *samyj bol'noj*, *naiboleē bol'noj* 'sickest'. These, of course, permit zero anaphora.

- (5) *Samyx bol'nyx otpravili domoj.*
 most.ACC.PL sick.ACC.PL they.sent home
 'They sent the most sick (ones) home.'

Example (5) presupposes prior mention of the antecedent of the null head which is modified by *samyx bol'nyx* (e.g. 'children') (cf. also example (3)). However, a comparative or superlative form cannot undergo conversion: *samyj bol'noj* cannot be used to mean 'the most seriously ill patient'.⁷

5. GENDER ASSIGNMENT

In this section I examine the way that gender is assigned to nouns. I first ask whether we can find evidence elsewhere of gender pairing. Although there are areas of the Russian lexicon which distinguish male ~ female forms rather systematically, it is only with the deadjectival nouns that this becomes fully grammaticalized.

5.1 *Gender pairs*

Nouns denoting humans or animals often differentiate their referents according to sex and this naturally has an effect on sex-based gender. This raises the question of whether a language like Russian might systematically distinguish animate nouns for gender to form inflectional gender pairs. Russian has word formation processes which create female-referent nouns, particularly from human nouns: *lev* ~ *l'vica* 'lion ~ lioness', *učitel'* ~ *učitel'nica* '(male) teacher ~ (female) teacher', *škol'nik* ~ *škol'nica* 'schoolboy ~ -girl', *student* ~ *studentka* '(male) student ~ (female) student'. However, this is generally taken to be lexically governed derivational morphology. Words such as *počtaljon* 'postman', *vrač/doktor* 'doctor' and many others lack corresponding female forms (though they may refer to females and may trigger feminine agreement, as we shall see

[7] See Giannakidou & Stavrou (1999) for a similar point about the failure of substantivized adjectives to take modifiers in Greek.

below). Moreover, it is not in general possible to predict what form the derivational morphology will take (though generalizations can be made). There are also traps for the unwary lexicographer: the word *mašina* 'machine' gives *mašinist* 'train driver (Masculine)' but *mašinstka* 'typist (Feminine)'. Finally, it is misleading to think of words such as *lev*, *škol'nik* or *student* as having male referents. Such words are often used when the sex of the referent is unknown, but also when it is unnecessary to draw a distinction. Wade (1994: 44) points out that use of the Masculine noun with female referent often gives a more prestigious tone. Thus, one would normally say *Ona učitel' matematiki* 'She is a teacher of mathematics' using the Masculine *učitel'* and not *Ona učitel'nica matematiki* using the Feminine *učitel'nica*. Moreover, to say *Ona nailučšij učitel' v škole* 'She (is) (the) best teacher in (the) school', with *učitel'* (Masculine), means that she is a better teacher than any of the other women or men, but to say *Ona nailučšaja učitel'nica v škole* with *učitel'nica* (Feminine) means simply that she is better than any of the other women teachers. In other words, the so-called Masculine forms are often actually the unmarked forms ('unmarkiert' in the Jakobsonian sense), rather than strictly male-denoting terms.

A more interesting comparison with the deadjectival nouns comes from those gender pairs in which the realization of sex differentiation is achieved without any overt derivational morphology but simply by means of inflectional class shift, such as Latin *amicus* 'male friend (Masculine)' from the exclusively Masculine Gender 2nd Declension, and *amica* 'female friend (Feminine)' from the 1st Declension, which contains predominantly Feminine nouns (together with a handful of nouns such as *nauta* 'sailor', which are Masculine). However, by no means all such pairs are expressed in such a transparent fashion in Latin. Thus, *cantor* ~ *cantrix* 'singer, male ~ female' both belong to the 3rd Declension, which contains both Masculine and Feminine nouns. In Russian we have the case *suprug* ~ *supruga* 'spouse male ~ female' and the near pair *drug* ~ *podruga* 'friend male ~ female' corresponding to *amicus* ~ *amica* (though Isačenko (1962: 63) cites a couplet from Olga's letter in Pushkin's *Evgenij Onegin* in which she refers to herself using the Masculine gender words *drug* and *suprug*). In addition, we occasionally find personal names behaving like *amicus*: *Aleksandr* 'Alexander', *Aleksandra* 'Alexandra', but otherwise the female-referent noun is generally signalled by some sort of derivational suffix. Even with *amicus*-type nouns, where we have just a shift in inflectional class, it seems that we are dealing with lexeme formation, and the male- and female-referent words would seem therefore to be distinct (though closely related) lexemes rather than inflected forms of a single lexeme.

The case of Class 1 nouns, which belong to an exclusively Masculine Gender declension, has given rise to some discussion in the literature. When a Class 1 noun such as *vrač* 'doctor' has a female referent it may take either formal (Masculine) or semantic (Feminine) agreement, and sometimes a

mixture (see Corbett 1983: 30f., 86f.; see also Corbett 1991: 231). Thus, (6) refers to a woman doctor, as can be seen from the gender agreement on the verb, despite the Masculine agreement on the adjective.

- (6) Naš novij vrač byla
 our.MASC.NOM.SG new.MASC.NOM.SG doctor.NOM.SG was.FEM.SG
 v otpuske.
 on holiday
 'Our new doctor was on holiday.'

How and when such a noun triggers Feminine agreements, and in which morphosyntactic categories, depends on a variety of complex linguistic and sociolinguistic factors, which I shall leave aside, since they won't affect the overall argument. Nouns such as *vrač* have to be analysed as one lexeme, but with indeterminacy in the way that gender is marked on targets, with formal and semantic criteria sometimes conflicting for one and the same occurrence of the noun. Where a woman doctor triggers Feminine agreements we have semantically-based agreement, not an extra lexeme, and the responsibility for explaining the pattern lies with our theory of agreement, not with our theory of the lexicon. If we were dealing with two lexemes of different gender it's hard to see how we could get mixed agreements of the kind seen in (6). The situation is thus essentially no different from that when a noun such as *committee* or *government* triggers plural agreement in British English despite being singular in form.

The nearest which Russian gets to gender inflection on lexemes which decline as nouns is found with ethnonyms. These behave much like human-referent words in Dutch (van Marle 1985), in that it would appear that most words denoting members of a nation or ethnic group have distinct male- and female-referent forms, a common suffix for this purpose being *-ka*: *arab* ~ *arabka* 'Arab', *angličanin* ~ *angličanka* 'Englishman/woman', *nemec* ~ *nemka* 'German', *moskvič* ~ *moskvička* 'inhabitant of/person born in Moscow'. The *-ka* suffix can only be added to consonant-final stems and we sometimes see accretion of an expletive /s/ to the end of vowel-final borrowings: *èskimos(ka)* 'Eskimo',⁸ *indus(ka)* 'Indian' (from 'Hindu'), *zulus(ka)* 'Zulu'. Very occasionally, the ethnonym is adjectival, in which case it behaves like *bol'noj*, e.g. *rususkij* ~ *rususkaja* 'Russian'. Where the speaker uses an ethnonym and knows that the referent is female it would be very unnatural to use the Masculine form. Moreover, because there is a Feminine form word available we are not allowed to switch agreements in mid-phrase as we can with *vrač*-type words. However, there is some slight evidence that ethnonyms have the same status as other male/female derivational pairs, since the Masculine form can sometimes cover members of both sexes. Thus, if we say (7) (using the Masculine word *angličanin*), then we invite

[8] Intriguingly, the borrowing *èskimo* exists, but as the name of a brand of ice-cream.

comparison with all English men and all English women,⁹ whereas if we say (8) (using the Feminine word *angličanka*), comparison is limited to English women.

- (7) Margaret Thatcher – odna iz samyx znamenityx
 Margaret Thatcher one.FEM of most famous
 angličan 20-ogo veka.
 English.MASC.GEN.PL 20th century
 ‘Margaret Thatcher is one of the most famous English people of the 20th century.’
- (8) Margaret Thatcher – odna iz samyx znamenityx
 Margaret Thatcher one.FEM of most famous
 angličanok 20-ogo veka.
 English.FEM.GEN.PL 20th century
 ‘Margaret Thatcher is one of the most famous English women of the 20th century.’

Another group of nouns which shows a systematic ambivalence with respect to gender is a fairly large subclass of Class 2 human-referent nouns (particularly common in the colloquial language), which can denote members of either sex: *sirota* ‘orphan’, *pjanica* ‘drunkard’, *plaksa* ‘cry-baby’, *obžora* ‘glutton, greedy-guts’. These are traditionally labelled Common Gender nouns (see Isačenko 1962: 62, Wade 1994: 37; for discussion see the 1980 Academy Grammar, sections 1135, 1139). These have different properties from the male ~ female referent pairs discussed so far. Once we fix the sex of the referent we fix the gender for a given occasion of use so that mixed agreements are excluded. In this respect, Common Gender words differ from *vrač*-type words, but are similar to derived female-referent nouns. However, Masculine Gender doesn’t function as the unmarked assignment as it does with *vrač* or *učitel’(nica)*. Thus, we must say *Ona – samaja malen’kaja sirota v ètom prijuete* ‘She is the youngest orphan in this orphanage’, with Feminine agreements throughout, we couldn’t say **Ona – samyj malen’kij sirota v ètom prijuete*, with Masculine agreements, even if the girl in question were also younger than all the boys in the orphanage. Thus, Common Gender nouns show a sensitivity to gender not shared by derivational pairs, but they don’t actually mark gender inflectionally.

If derivational pairs and *amicus*-type words fail to provide strong evidence for the existence of systematic gender distinctions in nouns, and if Common

[9] My informant balks at *Margaret Thatcher – samyj znamenityj angličanin 20-ogo veka*, where we use the Masculine word *angličanin* in the Nominative Singular rather than the Genitive Plural as in the text example. Curiously, exactly the opposite pattern is found with *vrač* words: Feminine agreement is possible ONLY in the Nominative, never in oblique cases (Corbett 1983: 86, Wade 1994: 46).

Gender words lack gender-specific inflections, what of the three classes of substantivization of adjective discussed in section 4? (Clearly, cases of zero anaphora will exhibit gender differentiation because these are still adjectives, so I leave them out of consideration.) Here we see a very clear contrast in behaviour between elliptical substantivization of the *stolovaja*-type and the case of surnames and deadjectival nouns.

Elliptical substantivization never gives rise to gender distinctions: the (often hypothetical) elided noun has a unique gender and this cannot be changed. Thus, even if we are talking about a queen bee we could only refer to her generically using the Neuter noun *nasekomoe* 'insect'; it would be quite impossible to invent a Feminine gender form **nasekomaja*.

The situation with surnames and with deadjectival noun conversion in Russian is at first sight somewhat mixed. With adjective-to-noun conversion, we often find gender pairs but apparently not always. A number of type (iii) words, including terms denoting professions such as *rjadovoj* '(army) private' (**rjadovaja*) or *učonyj* 'scholar, scientist' (**učonaja*), only take Masculine endings, even when they refer to women. It would appear, however, that absence of gender pairing correlates with extragrammatical sociological or pragmatic factors, rather than with properties of deadjectival nouns as such. When we factor out these effects and consider just pragmatically neutral adjectives, we see that deadjectival converted nouns regularly differentiate gender. A converted noun such as *bol'noj/bol'naja* 'patient' necessarily shows gender pairing as a matter of grammatical fact and in this sense the opposition can be said to be 'obligatory'. This picture is confirmed by the case of participles. These are formally and syntactically adjectives, taking the standard adjectival agreement paradigms in Number, Gender and Case. When participles are converted to human-referent nouns they distinguish sex by means of their standard Masculine or Feminine inflections,¹⁰ including those cases where the participle bears the word-final reflexive *-sja* marker: *učit'sja* 'learn', *učaščijsja* '(boy) pupil', *učaščajasja* '(girl) pupil'. These properties are found with all voice/tense participle types: *obvinjaemyj/obvinjaemaja* 'accused (M/F)', imperfective passive present participle; *arestovannyj/arestovannaja* 'detainee, arrestee (M/F)', perfective passive participle. The example of *učonyj* 'scientist' above, which lacks a Feminine form **učonaja*, is only an apparent exception. Its participial morphology is archaic: unprefixed verbs such as *učit'* don't have passive participles in the modern language. Therefore, *učonyj* is a lexicalized form. The behaviour of deadjectival converted nouns differs from that of derivationally related forms such as *učitel'(nica)*. Thus, speaking of a little girl in a children's hospital we could say (9), but not (10).

[10] There is a strong disinclination to do this for highly 'masculine' referents, such as military personnel, which, again, I abstract away from.

- (9) Vot Veročka – ona samaja malen'kaja bol'naja v ètoj
 here Verochka she most.FEM young.FEM sick.FEM in this
 bol'nice.
 hospital
 'Here's Verochka – she's the youngest patient in this hospital.'
- (10) *Vot Veročka – ona samij malen'kij bol'noj v ètoj
 here Verochka she most.MASC young.MASC sick.MASC in this
 bol'nice.
 hospital

Much the same is true of participial converted nouns. Where the sex of the referent is known the participial form has to be inflected for it.

- (11) Ona samaja odarjonnaja učaščajasja v ètoj škole.
 she most.FEM gifted.FEM pupil.FEM in this school
 'She's the most gifted pupil in this school.'
- (12) *Ona samyj odarjonnyj učaščijsja v ètoj škole.
 she most.MASC gifted.MASC pupil.MASC in this school

In (9) and (11) the subject is being compared to patients and pupils of both sexes, not just the female ones. I take this as evidence that gender marking is obligatory for this class of nouns (obligatory, at least, in the same sense that gender marking on personal pronouns is obligatory).

The situation with surnames is slightly more complex because here we cannot derive the inflections directly from the corresponding (possessive) adjectives. As we saw in section 3, adjective-based surnames differ in some of the paradigm from adjectives. In a complete description we would need to take account of this but here I am not concerned with details of form but rather with patterns of grammatical categorization, so I shall leave these matters to one side. Perhaps the major significance of the surnames is the simple observation that surnames cannot be mistaken for adjectives in the syntax. A surname is surely a noun, not an adjective and certainly not a possessive adjective, and it would be hopelessly artificial to analyse all the surnames with adjective-like inflections as adjectives modifying a null noun. The fact that some of the surname paradigm differs from that of the adjective only serves to strengthen this conclusion.

With adjectival surnames then, gender is clearly an obligatory inflectional category. However, many male-referent Russian surnames (mainly borrowed) are either indeclinable like *Levi* or *Bondarko* or decline like ordinary nouns (*Lotman*). The female-referent forms are identical to the Nominative Singular form of the male-referent forms but they are indeclinable, even when the male-referent form inflects. The situation in Czech, another Slavic language, is subtly different. Czech is more systematic than Russian in that all female-referent surnames, including foreign names, have to inflect for gender. If the surname is recognizably adjectival in form, the adjectival declension is used: *Mr. Pokorný* vs. *Ms. Pokorná*. Otherwise, the female-

referent name takes the adjectival suffix *-ová*: *Novák* ~ *Nováková*, *Gebauer* ~ *Gebauerová*, *Thatcher* ~ *Thatcherová*. In other words, gender in Czech surnames is obligatory in the full sense of the term (though Czech has to resort to a derivational device, *-ov* suffixation, to achieve this result).

To summarize: of the four nominal uses of adjectives outlined in section 4, two, the deadjectival (inflectable) surnames and converted nouns, exhibit systematic gender inflection. This gender pairing cannot be lightly dismissed as marginal and hence of no relevance to lexical theory. There is very regular exponence making use exclusively of adjectival agreement morphology and the alternation is productive, and, in a certain sense, obligatory (this is particularly obvious in the case of declinable surnames). In many respects these nominals behave like the Common Gender nouns, except that their inflectional form overtly marks the gender which is fixed for them. Hence, grammatical theory has to be able to distinguish two distinct types of lexical entry: closely related but distinct lexemes (the *amicus/amica* types) and single lexemes with Common Gender, some of which inflect for Masculine/Feminine specifications. Lexical theory also has to account for the fact that gender can be an inflectional category in the first case.

5.2 Gender assignment to deadjectival nouns

As shown by Corbett (1982, 1991), gender can be determined by means of an algorithm, which takes the form as set out below.

Assign gender

- (i) on the basis of semantics (e.g. sex of referent); else
- (ii) lexically; else
- (iii) on the basis of form (e.g. phonology); else
- (iv) on the basis of inflectional class.

Russian uses steps (i), (ii), (iv). If an animate has male/female reference, the noun is Masculine/Feminine. If the word is irregular in some way, then gender is specified lexically. Gender assignments by steps (i), (ii) override more general assignment on the basis of inflectional class. If the word belongs to Class 2, it is Feminine unless, like *mužčina* 'man', it denotes a male. If the word belongs to Class 1, it is Masculine, and so on (see Corbett 1982, Fraser & Corbett 1995 for the full details).

Step (i) of the algorithm comes into play in the case of Common Gender nouns such as *sirota* 'orphan'. To describe these I shall assume an attribute [Common], which has two values, {Masculine, Feminine}, and which is itself a value of the [Gender] feature. The {Masculine, Feminine} specification is fixed by appeal to the semantic representation: when the word denotes a

male/female we have, respectively, [Common:Masculine/Feminine].¹¹ This is similar to the analysis of Fraser & Corbett (1995), which appeals to a feature of 'semantic sex', though they do not make use of a Common attribute in the morphology. Type (ii) deadjectival nouns formed by elliptical substantivization (the *stolovaja/nasekomoe* type) have a gender assigned to them lexically, as discussed in section 4. The surnames and the converted nouns present a more serious problem, however, because they reflect gender morphologically. The source of the gendered forms is systematically derived from the adjective inflection. What ought to be purely agreement morphology has now been commandeered for signalling gender and we will completely miss the generalization by setting up two distinct entries, say, for *Puškin* and *Puškina*, *bol'noj* and *bol'naja*, or *učaščijsja* and *učaščajasja*. Moreover, once we abstract away from extralinguistic facts (like folk sexism) the pattern is obligatory, in the sense that any pragmatically neutral deadjectival noun or surname has two gender forms and it would be ungrammatical to use the wrong one.

One brute force 'solution' to the problem of deadjectival conversions would be to try to assimilate these cases to the zero anaphora cases by assuming that such adjectives and participles are agreeing with a zero head noun and that the head noun is gendered. This won't work, however. In many cases it isn't clear what that noun might be. Thus, in an ordinary school, *učaščajasja* would refer to 'girl' (broadly speaking, either *devočka* or *devuška* for pre- and post-pubertal girls, respectively). In other institutions, of course, with older students, 'girl' might not be at all the right word to choose. In one case, at least, even where we might expect a zero anaphora reading to be possible, we don't find it and instead observe a construction which clearly has different properties, consistent with genuine adjective-to-noun conversion. In bureaucratic style the word for person is the Neuter Gender *lico* (literally 'face'). However, we never find zero anaphora involving this noun. In fact, it is not especially easy to modify this word, though in (13a) we see it modified by both the adjective 'official' and the participle 'running'. However, although the participle is also regularly used without a head noun, as in (13b), it never takes the Neuter agreements we would expect if the word *lico* were understood as a null head (13c).

- (13) (a) My ustroili vstreču s oficial'nym licom,
 we arranged meeting with official.NEUT.SG person
 upravljajuščim vodosnabženiem v gorode.
 running.NEUT.SG water supply in town
 'We arranged a meeting with the official running the town's water supply.'

[11] A properly formalized account would include some way of specifying that the feature set [Gender:Common:Masc/Fem] is interpreted in exactly the same way as [Gender:Masc/Fem].

- (b) Upravljajuščij vodosnabženiem vystupil pervym.
 running.MASC.SG water supply spoke.MASC.SG first
 'The person running the water supply spoke first.'
- (c) *Upravljajuščee vodosnabženiem vystupil(o)
 running.NEUT.SG water supply spoke.MASC.(NEUT).SG
 pervym.
 first

Thus, although the participle *upravljajuščij* does agree with an overt occurrence of *lico* it cannot agree with a 'covert' occurrence of this noun. The reason, of course, is that *upravljajuščij* is a Common Gender noun, not an adjective.

The 'virtual head' solution is highly suspect when we go beyond the Masculine/Feminine cases. Depending on semantics, participles, especially passive participles, can also be used in the Neuter, in which case they refer to the internal argument of the verbal predicate: *soderžimoe* 'contents' (imperfective passive present participle of *soderžat'* 'contain'), *napisannoe* 'the written text, what has been written' (perfective passive past participle of *napisat'* 'write'). There is no way to predict this Neuter Gender from a putative null head.

Finally, even if some sort of zero anaphora story could be put together for some of the converted nouns, this would not work for surnames. Nor would it allow us to account for the morphosyntactic differences between zero anaphora and converted nouns noted in section 4.2.

The conclusions of section 5 are that the deadjectival surnames and converted nouns are like Common Gender nouns such as *sirota*: once the sex of their referents can be identified, the noun is assigned a gender once and for all, which acts as a unitary controller for any agreement type. In this respect they differ from words such as *učitel'*, which are unmarked for sex, and from *vrač*-type words, which can trigger mixed agreements. Where the deadjectival nouns differ from other Common Gender nouns is that they are obliged to signal their gender inflectionally.

6. THE MORPHOSEMANTICS OF ADJECTIVE-TO-NOUN CONVERSION

The conversion of adjective to noun is at first sight reminiscent of the phenomenon of transposition, in which solely the morphosyntactic category of the word is changed. However, these conversions are more like lexical derivations proper than transpositions. A true adjective-to-noun transposition gives rise to a property nominalization, that is the name of the property denoted by the adjective: *red* \Rightarrow *redness*. There is no other additional semantic component. However, in adjective-to-noun conversions, the converted noun denotes an entity which is modified by that adjective. In other words, the semantics of the converted noun *bol'noj* is essentially the same as that of the phrase *bol'noj čelovek* 'sick person'. The semantic

representation associated with the noun *bol'noj* 'patient' should therefore be along the lines of (14).

(14) $\lambda x [f(x) \ \& \ \text{sick}(x)]$, where f is of the ontological type of common nouns.

This is more or less the sort of representation we would assume for cases of zero anaphora, in which the identity of the predicate $f(x)$ is given contextually, except that in the case of conversion $f(x)$ is part of the lexical entry of the lexeme. Depending on the semantics of the adjective, a full semantic interpretation of such a formula would be able to invest the predicate f with greater content. For instance, in the case of *bol'noj*, f would presumably have to denote an animate entity. As it happens, Russian requires the denotation of f to be a person, so we could in fact replace (14) with (15), where the ontological type of (15) is that of a person.

(15) $\lambda x [\text{person}(x) \ \& \ \text{sick}(x)]$

A slightly more perspicuous way of notating this is to adapt the graphic conventions of Jackendoff (1990: 55f.) for restrictive modification. Representing modification as simple conjunction, we need the following rule schema to capture the semantic side of the process.

(16) *Adjective-noun conversion for person nouns* (productive)

$[\text{Property } F(x)] \Rightarrow [\text{Thing}[\text{Thing } \text{PERSON}(x)] \ \& \ [\text{Property } F(x)]]$

Concretely, this gives us the representation in (17) for the substantivized adjective *bol'noj* 'patient'.

(17) $[\text{Property } \text{SICK}(x)] \Rightarrow [\text{Thing}[\text{Thing } \text{PERSON}(x)] \ \& \ [\text{Property } \text{SICK}(x)]]$

Because the process in (16) is defined over Properties, it will in practice be restricted to adjectives. However, this will be made explicit in section 7, when we look at the morphosyntactic aspects of the process. There is a handful of suffixational processes which derive person nouns from adjectives but these all add an evaluative component lacking from (16). Thus, (16) can be thought of as the default deadjectival person formation rule.

To elucidate deadjectival/departicipial noun conversion we will need a way of notating lexical syntactic categories, mixed categories and attributive modification. Proposals for representing all of these have recently been made in Spencer (1999). In theories which admit a level of argument structure distinct from semantic structure, it is common to distinguish two special types of argument for nouns and verbs. Following Williams (1981), the argument structure for a noun is often held to be a single position denoted by $\langle R \rangle$. This position is bound or coindexed by determiners and quantifiers, and in Higginbotham's (1985) theory it is the element which is bound to thematic argument positions in the argument structure of a verb when the verb discharges one of its semantic roles. Higginbotham also argues that the argument structure of the verb includes an 'event' (better 'eventuality')

position, $\langle E \rangle$, which is bound by tense and other operators. In Spencer (1999), I argue that adjectives, too, have an additional argument position, notated $\langle A \rangle$ (for 'attribute'). This position is coindexed with the (highest) thematic argument of the adjective and it binds the $\langle R \rangle$ position of the noun which the adjective modifies attributively. The $\langle R \rangle$, $\langle E \rangle$ and $\langle A \rangle$ roles are called 'semantic function roles'.

If we say that 'person' has the argument structure $\langle R \rangle$ and 'sick', $\langle A_i, x_i \rangle$, then the phrase 'sick person' will have the representation (18).

- $$(18) \quad \langle A_i^*, x_i \rangle \langle R^* \rangle$$

The asterisk represents the binding relation between the modifier and the head noun and ‘x’ stands for the thematic argument of the adjective. The argument structure in (18) also corresponds to semantic representation (15), that of the converted noun lexeme, with its incorporated PERSON predicate modified by the meaning of the original adjective. Essentially the same analysis will hold for participial nouns, though to see that we need to have a systematic account of participle formation. As shown in Spencer (1999), the modest enlargement of the set of semantic function roles to include an ‘A’ role means that these roles do most of the work of distinguishing lexical categories from each other (and in Spencer 1998 I argue that this renders lexical category labels otiose). However, many word classes show evidence of being ‘mixed’ (see Haspelmath 1996 for discussion). This is typically true of transpositions such as participles. Thus, a participle is clearly an adjective in form and function, yet it may bear typically verb features such as tense, aspect and voice, and also retains the thematic argument structure of the verb, taking objects and sometimes (as in Russian) even assigning arguments the same quirky case as the original verb. Such ‘impure’ categories are formed by adding a further semantic function role to the original argument structure. Thus, a relational adjective (such as *adjectival* from *adjective*) will have the argument structure $\langle A_i \langle R_i \rangle \rangle$ and a property nominalization of an adjective, *red*, $\langle A_i, x_i \rangle$, will take the form *redness* $\langle R_j \langle A_{j,i}, x_i \rangle \rangle$. Note that the ‘R’ argument is coindexed separately with the ‘A’ argument of the adjective, indicating that we have the name of a property. On this analysis a participle is a verb with an additional ‘A’ semantic function role. This role is coindexed to the highest thematic argument in the argument structure: *eating* $\langle A_j, \langle E, x_i, y \rangle \rangle$, *eaten* $\langle A_i, \langle E, y_i, (x) \rangle \rangle$. This indicates that the entity of which the participle is predicated is identified with the subject of the verb, as in *the man eating the sandwich*, *man* $\langle R^* \rangle$ *eating* $\langle A.^* \langle E, x_i, y \rangle \rangle$.

The participle *učaščijsja* is derived from *učit'sja* 'learn, study', argument structure $\langle E, x \rangle$. The argument structure of the participle is therefore $\langle A_1 \langle E, x_1 \rangle \rangle$, which is the argument structure of a modifying attribute (19).

- (19) uč-ašč-aja-sja mladjož
study-PARTICIPLE-FEM.NOM.SG-REFL youth.(FEM).NOM.SG.
'young people who are studying'

Phrase (19) will have the argument structure $\langle A_i^* \langle E, x_i \rangle \rangle \langle R^* \rangle$, which standard principles of interpretation will map onto representation (20).

(20) $[_{\text{Thing}}[_{\text{Thing}} \text{YOUNG.PEOPLE}(x)] \& [_{\text{Event}} \text{STUDY}(x)]]$

The key to understanding the converted nouns is to recognize that the semantic representation (SEM) of the lexical entry is essentially the same in form as that of a phrase such as (19), except that the semantic predicate corresponding to the head noun is a general $\text{PERSON}(x)$ predicate which isn't projected in the syntax. Consequently, the syntactic representation (SYN), coded here in terms of semantic function arguments, will also correspond to that of a phrase. Thus, we will obtain the partial lexical representations shown in (21) and (22).

(21) *bol'noj/bol'naja* 'male/female patient'

SYN	$\langle A_i^*, x_i \rangle$		$\langle R^* \rangle$
SEM	$[_{\text{Thing}}[_{\text{Property}} \text{SICK}(x)]]$	&	$[_{\text{Thing}} \text{PERSON}(x)]$

(22) *učaščijsja/učaščajasja* 'boy/girl pupil'

SYN	$\langle A_i^* \langle E, x_i \rangle \rangle$		$\langle R^* \rangle$
SEM	$[_{\text{Thing}}[_{\text{Event}} \text{STUDY}(x)]]$	&	$[_{\text{Thing}} \text{PERSON}(x)]$

The adjective *so to speak* agrees lexically with its incorporated PERSON predicate. In effect, this describes a kind of de-phrasal word formation, an attested, if rather poorly understood, means of lexical stock expansion.

The semantics of surnames is complex and I don't claim to have a proper understanding of the matter. In particular, I do not know how to analyse the denotation of proper names, but I shall assume that proper names do not have a sense component as such but only an index indicating their referent. However, animals, buildings, countries and so on, as well as people, can have proper names, so here too we will at least need to provide surnames with the semantic feature $\text{PERSON}(x)$ to differentiate them from other types of name. Perhaps something like (23) will suffice.

(23) *Puškin* (a)

SYN	$\langle R \rangle$
SEM	$[_{\text{Thing}}[_{\text{Thing}} \text{PERSON}(x)] \& \text{NAME}(x)]$

For the sake of completeness, I consider the cases of elliptical substantivization, as in *stolovaja* 'dining room; restaurant'. By contrast with

the case of *bol'noj*, we are unable postulate a productively and transparently incorporated head noun. To the extent that any regularities in formation can be captured in a grammar, we need to set up individual derivational rules defined over semantic representations for each separate set of cases. Thus, for the 'room' examples such as *stolovaja* 'dining room', *vannaja* 'bathroom' we might suggest (24).

- (24) Given a modifier $[_xM(x)]$, the expression
 $[_{Thing}[_{Thing}ROOM(x)] \& [_xM(x)]]$
 denotes a room with some (arbitrary) relation to $[_xM(x)]$.

Note that (24) is a redundancy rule, a statement of lexical relatedness between listed lexical entries. The most accurate way to capture the meaning of *stolovaja* is probably just to state it, as in (25).

- (25) $[_{Thing}[_{Thing}ROOM(x)] \& [_xFOR DINING(x)]]$

In this section we have seen that deadjectival nouns such as *bol'noj* are best viewed as cases of de-phrasal word formation in which an erstwhile noun head is incorporated into the lexical representation, causing a shift in lexical class. The adjective effectively agrees in (Common) gender with this incorporated head.

7. INFLECTED FORMS OF CONVERTED ADJECTIVES

I now turn to the way in which the converted noun retains its adjectival morphology and is thus able to show gender inflection. This kind of take-over of function has not, as far as I know, been discussed in any detail in the theoretical literature, and some of the technicalities prove to be non-trivial. In order to explore the issues, it will be necessary to make explicit a number of assumptions about lexical entries which tend to remain obscure in the literature.

In computing the word forms of a lexeme we must in general appeal to two types of feature. The first set is a collection of purely morphological features distinguishing inflectional classes, regular from irregular lexemes and so on (the purely 'morphomic' properties of Aronoff 1994). They are instances of m-features ('morphological features') in the sense of Sadler & Spencer (2001). We can think of these features as part of the lexemic index of a lexical entry. The second set corresponds to those morphosyntactic properties that reflect syntactic or semantic oppositions such as tense or agreement. These are the morphological reflexes of Sadler & Spencer's (2001) s-features ('syntactic features'). The morphological component must exhaustively specify this second set for any lexical class by fixing the set of obligatory morphosyntactic features and their permissible values. It will be convenient to have a single term to refer to this declaration of feature types and values, and so I'll call it the 'morphosyntactic signature'.

The lexical entry for a Russian noun and adjective will bear two inherent morpholexical classificatory features, one for gender ([Gender]), the other for declension ([NounClass] and [AdjClass], respectively), as shown in (26).

- (26) (a) [Gender:{Masculine, Feminine, Neuter, [Common:{Masculine, Feminine}}]]
 [NounClass:{1a, 1b, 2, 0,...}]
 (b) [AdjClass:{Declinable:{Standard, Possessive}, 0}]

Nouns and adjectives marked [NounClass:0], [AdjClass:0] are indeclinables such as *kino* ‘cinema’, *bantu* ‘Bantu’. In addition, the morphological component associates each Russian noun with the morphosyntactic signature sketched in (27).

- (27) For any lexeme with the specification SYN<R...> the following morphosyntactic properties must be expressed:
 [Case:{Nominative,...}]
 [Number:{Singular, Plural}]

Constraint (27) states that a noun inflects for Case and Number, and hence serves to express those properties in the syntax. In addition, nouns control agreement for these features. However, as a referee points out, nouns also control gender agreement. This means that gender must be visible in the syntax as well as being a purely morphological feature. In terms of the framework of Sadler & Spencer (2001), gender on nouns must be coded both as an s-feature and as an m-feature. We should therefore include Gender in the morphosyntactic signature, so that (27) becomes (28).

- (28) For any lexeme with the specification SYN<R...> the following morphosyntactic properties must be expressed:
 [Case:{Nominative,...}]
 [Number:{Singular, Plural}]
 [Gender:{Masculine, Feminine, Neuter}]

Declaration (28), however, incorrectly implies that nouns can actually inflect for gender. There are two ways we can correct this. First, we may amend the definition with respect to the Gender feature as ‘[Gender: α], where α is the lexically specified Gender marking’. A more attractive alternative, however, is to appeal to a general principle which states that the feature specification in a morphosyntactic signature cannot conflict with a lexical specification. This would then apply, for instance, to irregular verb stems such as *went*, which can be specified [Tense:Past] in the lexical entry of the verb GO and hence would necessarily bear [Tense:Past] in its morphosyntactic signature. The lexical entry for the noun *stol* ‘table’ will therefore include at least the information shown in (29) (where PHON = phonological specification and MOR = morphological specification).

- (29) STOL 'table'
 PHON /stol/
 MOR [NounClass:1a]
 [Gender:Masculine]
 SYN <R>
 SEM [_{Thing}TABLE(x)]

Adjectives have an agreement paradigm which requires the same morpho-syntactic signature as for nouns. The lexical entry for the adjective *bol'noj* is given in (30).

- (30) BOL'NOJ 'ill, sick'
 PHON /bol'n/
 MOR [AdjClass:[Declinable:Standard]]
 SYN <A_i, x_i>
 SEM [_{Property}SICK(x)]

We must now describe how a deadjectival converted noun commandeers the adjectival agreement system, interpreting the {Masculine, Feminine, Neuter} agreement classes as values of an inherent classificatory Gender feature. First, we must consider how word forms receive their inflections. I assume a paradigm-based model of inflection under which each lexeme is associated with a paradigm in the form of a set of 'cells'. Each cell corresponds to a set of feature specifications proper to that lexeme. Russian morphology then contains a set of rules, constraints, equations or functions which map the set {lexeme plus feature specifications} to the word form which occupies the corresponding cell(s) in the lexeme's paradigm. (This is essentially a Paradigm Function in the sense of Stump 2001.) This means that for a word form such as *stola* 'of a table' we have a mapping function (31) (with obvious abbreviations and ignoring stress, for which see the recent account by Brown, Corbett, Hippisley, Fraser & Timberlake 1996).

- (31) STOL 'table'
 PHON /stol/
 MOR [NounClass:1a, Gen:Masc]
 SYN <R>
 morphosyntactic signature: {Case:Gen, Num:Sg, Gen:Masc}
 = *stola*

Correspondingly, for an adjective form such as *bol'nogo* 'sick.gen.masc.sg.' we have (32).

- (32) BOL'NOJ 'ill, sick'
 PHON /bol'n/
 MOR [AdjClass:[Declinable:Standard]]
 SYN <A_i, x_i>
 morphosyntactic signature: {Case:Gen, Num:Sg, Gen:Masc}
 = *bol'nogo*

Finally, we need to specify the way that the various components of the lexical entry determine the morphosyntactic class of lexemes. In the simplest cases, we just have to say that entries with SYN $\langle R \rangle$, $\langle E \rangle$, $\langle A \rangle$ correspond to nouns, verbs and adjectives, and take corresponding inflections, but this won't work for those nouns which decline like adjectives or for other mixed categories (and clearly it wouldn't help much if we included a syntactic category feature [Cat:{Noun, Verb, Adjective}]). What we need to do is to have a way of tying the SYN value of an entry with its morphological behaviour. Let's first define the 'morpholexical signature' of a lexeme to be a pair consisting of its lexical MOR specification together with its morphosyntactic signature. We then define a function which takes argument structure representations (specifically, the semantic function roles) and delivers a morpholexical signature. Rule (33) achieves this for nouns.

(33) *Definition of morpholexical signature (MLS) for nouns*

MLS($\langle R... \rangle$) \Rightarrow
 $\langle [MOR \text{ NounClass:}\alpha, \text{ Gen:}\beta], [Case:\gamma, \text{ Num:}\delta, \text{ Gen:}\epsilon] \rangle$

The Gender feature will have the values {Masculine, Feminine, Neuter, Common}, where Common is itself an attribute with the values {Masculine, Feminine}. The Common Gender attribute will be further specified by reference to the semantics, using the rule schemata sketched in (34).

- (34) SEM $[_{\text{Thing}}... \text{PERSON}(x) \ \& \ \text{MALE}(x)/\text{FEMALE}(x) \ \& \ ...]$
 MOR Gender:Common \Rightarrow
 MOR Gender:Common:Masculine/Feminine

Default assignment of gender to animates:

SEM $[_{\text{Thing}}... \text{ANIMATE}(x) \ \& \ ...] \Rightarrow$
 MOR Gender:Masculine

The morpholexical signature for adjectives is shown in (35).

(35) *Morpholexical signature for adjectives*

MLS($\langle A... \rangle$) \Rightarrow
 $\langle MOR \text{ AdjClass:}\alpha, [Case:\gamma, \text{ Num:}\delta, \text{ Gen:}\epsilon] \rangle$

These representations oversimplify on one point: indeclinable nouns and adjectives do not have distinct forms for Number, Gender and Case. We could capture this by positing two sets of representations for each lexical category, the second of which would specify MOR [Class:o] and the morphosyntactic feature signature as [empty]. However, adjectives, verbs and pronouns agree in Number, Gender and Case with indeclinable nouns, so we should perhaps say that such nouns bear these features even if they don't express them morphologically. I will therefore assume that indeclinables have full paradigms occupied by a single form.

We interpret the reference to semantic function roles maximally so that the

schemata in (33) and (35) will apply equally to derived nouns and adjectives. That is, we interpret $\langle R \rangle$ and $\langle A \rangle$ in (33, 35) to be the outermost (governing) roles. Thus, (33) will apply to underived nouns but also to argument structure representations such as $\langle R \langle A \rangle \rangle$ and $\langle R \langle E, x, y \rangle \rangle$, representing deadjectival and deverbal nominalizations, respectively. Rule (35) will apply to underived adjectives and to representations such as $\langle A_i \langle R_i \rangle \rangle$ and $\langle A_i \langle E, x_i, y \rangle \rangle$, a relational adjective and a participle, respectively. However, rule (33) won't apply, say, to $\langle A_i \langle R_i \rangle \rangle$.

Given these preliminaries, we can turn to the deadjectival nouns. Although it is not the focus of this paper, I shall first discuss the more difficult case of lexicalized expressions of the type *stolovaja* 'dining room' or *nasekomoe* 'insect'. There is no reason to postulate a synchronic process of noun incorporation/ellipsis so the semantic function argument will simply be $\langle R \rangle$. However, these nouns decline like ordinary adjectives so we must stipulate in their lexical entries that they have the MOR feature [AdjClass:Declinable]. This represents their etymology but that history can't be predicted from anything in the synchronic lexical entry. The lexical entries for *stolovaja* 'dining room' and *nasekomoe* 'insect' are shown in (36) and (37), respectively.

- (36) STOLOVAJA 'dining room'
 PHON /stolov/
 MOR [AdjClass:[Declinable:Standard], Gen:Fem]
 SYN $\langle R \rangle$
 SEM [_{Thing}[_{Thing}ROOM(x)] & [_xFOR DINING(x)]]
- (37) NASEKOMOE 'insect'
 PHON /nasekom/
 MOR [AdjClass:[Declinable:Standard], Gen:Neut]
 SYN $\langle R \rangle$
 SEM [_{Thing}INSECT(x)]

More interesting are the more productive (or at least more transparent) cases of 'subtractive' de-phrasal word formation found frequently in the spoken language in which a head noun is elided from a phrase, as in *skoryj* (*poezd*) 'fast (train)'. Arguably, this should be treated in essentially the same way as the *bol'noj* case.

The representation for *stolovaja* in (36) fails to relate the form of the converted noun to that of the original adjective, *stolovyj*, whose lexical representation is given in (38).

- (38) STOLOVYJ 'pertaining to a table'
 PHON /stolov/
 MOR [AdjClass:[Declinable:Standard]]
 SYN $\langle A_i \langle R_i \rangle \rangle$
 SEM [_{Thing}TABLE(x)]
 morphosyntactic signature: {Case: α , Num: β , Gen: γ }

The converted noun shares all its properties with the original adjective except for the SYN and SEM features, and except for the fact that its Gender feature is fixed. However, it's important to realize that this overlap in form is essentially an accident of history, the result of a grammaticalization process which is semantically opaque and hence cannot be represented as a productive relationship in Russian grammar. The simplest way to capture this systematic overlap, therefore, is to say that the converted noun inherits its form-based properties from the lexical entry of the original adjective. To show exactly how this is done would require a fully articulated theory of lexical hierarchies, but for present purposes let's assume that both the adjective and the converted noun share exactly the same lexical index with respect to form features and differ solely on their SYN/SEM features. Thus, we propose the following composite representation as a shorthand for our as yet unarticulated theory of lexical hierarchies:

- (39) PHON /stolov/
 MOR [AdjClass:[Declinable:Standard]]
 (a) STOLOVYJ 'pertaining to a table'
 SYN $\langle A_1 \langle R_1 \rangle \rangle$
 SEM $[_{Property} PERTAINING TO [_{Thing} TABLE](x)]$
 morphosyntactic signature: {Case: α , Num: β , Gen: γ }
 (b) STOLOVAJA 'dining room'
 MOR Gender:Feminine
 SYN $\langle R \rangle$
 SEM $[_{Thing} [_{Thing} ROOM(x)] \& [_{Property} FOR DINING(x)]]$
 morphosyntactic signature: {Case: α , Num: β , Gen:Fem}

The relationship between (39a) and (39b) can be thought of as the instantiation of a lexical relatedness rule. For *nasekomoe*, we just need the representation given in (37) because there's no adjective for the noun to be related to.

We now turn to the Common Gender converted nouns, *bol'noj/bol'naja* '(male/female) patient', *učaščijsja/učaščajasja* '(boy/girl) pupil'. The semantics of the conversion process is transparent. For *bol'noj* the adjective has the SEM representation $[_{Property} SICK(x)]$ and the noun has the SEM representation (40) (cf. (21)).

- (40) $[_{Thing} [_{Thing} PERSON(x)] \& [_{Property} SICK(x)]]$

This representation is only superficially similar to that of the *stolovaja* type. This is because the incorporated PERSON(x) component acts, in effect, as a grammatical feature (unlike predicates denoting rooms). The conversion process is morphologically transparent, too. From the adjective representation in (41) we derive the noun in (42).

- (41) BOL'NOJ 'ill, sick'
 PHON /bol'n/
 MOR [AdjClass:[Declinable:Standard]]
 SYN $\langle A_i, x_i \rangle$
 SEM $[_{Property}SICK(x)]$
- (42) BOL'NOJ 'male/female patient'
 PHON /bol'n/
 MOR [AdjClass:[Declinable:Standard]]
 SYN $\langle A_i^*, x_i \rangle \langle R^* \rangle$
 SEM $[_{Thing}[_{Thing}PERSON(x)] \& [_{Property}SICK(x)]]$

Similarly, for *učaščijsja* 'pupil' we need the representations in (43) and (44).

- (43) UČAŠČIJSJA 'studying (participle)'
 PHON /učašč ... sja/
 MOR [AdjClass:[Declinable:Standard]]
 SYN $\langle A_i \langle E, x_i \rangle \rangle$
 SEM $[_{Event}STUDY(x)]$
- (44) UČAŠČIJSJA 'boy/girl pupil'
 PHON /učašč ... sja/
 MOR [AdjClass:[Declinable:Standard]]
 SYN $\langle A_i^* \langle E, x_i \rangle \rangle \langle R^* \rangle$
 SEM $[_{Thing}[_{Thing}PERSON(x)] \& [_{Event}STUDY(x)]]$

The SYN values $\langle A_i^*, x_i \rangle \langle R^* \rangle$ and especially $\langle A_i^* \langle E, x_i \rangle \rangle \langle R^* \rangle$ are good examples of a particular species of 'mixed' category. Ontologically speaking these are entries for words denoting Things, which are canonically nouns. The semantic function roles of the argument structure representation are those of the $\langle R \rangle$ category (modified by an $\langle A \rangle$ category), again, canonically a noun. However, morphologically all four types of word shown in (41–44) are adjectives. The task, therefore, is to explain why the derived nouns don't enter one of the standard noun declensions. Ultimately, the explanation for this is grammaticalization. However, we can reflect this process by positing a conversion rule of the form (45), a refinement of (16).

- (45) MOR [AdjClass: α]
 SYN $\langle A \dots \rangle \quad \Rightarrow$
 SEM $[_{\alpha F}(x)]$
- MOR [AdjClass: α , Gen:Common]
 SYN $\langle A^* \dots \rangle \langle R^* \rangle$
 SEM $[_{Thing}[_{Thing}PERSON(x)] \& [_{\alpha F}(x)]]$

In effect, we can say that this rule induces lexical inheritance of form properties of the kind which are lexically stipulated in the non-compositional

entries for words such as *stolovaja* and adds a partially specified Gender attribute.¹²

The conversion process itself does not specify a value for the Common attribute. However, since the converted noun has a semantically transparent PERSON(x) predicate it can be assigned Masculine/Feminine gender on the basis of the sex of the referent as described in section 5.2. We have two ways of viewing this situation. The first is to say that the SEM representation we have given for such words is incomplete, and that in fact the conversion process provides us with two SEM representations, (46a, b).

- (46) (a) [Thing[Thing PERSON(x)] & [Property MALE(x)] & [Property SICK(x)]]
 (b) [Thing[Thing PERSON(x)] & [Property FEMALE(x)] & [Property SICK(x)]]

In effect, this is to take *bol'noj* and *bol'naja* as two distinct lexemes, just like *učitel' ~ učitel'nica*. The additional semantic predicates will automatically trigger [MOR Gender:Masculine/Feminine] specifications and the adjective will then agree with the incorporated 'person' noun in gender. However, this contradicts our earlier conclusion that we are dealing with a single lexeme here: such a two-lexeme analysis fails to capture the fact that converted nouns and adjectival surnames bear Common Gender. That is, we would have to explain how it is that a sporadic derivational relationship, male-to-female derivation, becomes completely regular for just the pure conversions and adjectival surnames. Moreover, it is clear that the converted noun shows gender distinctions precisely because gender differentiation is morphologically specified for adjectives. This would be a sheer coincidence if we treated gender of the deadjectival conversions as derivational or semantic.

We must therefore conclude that the Masculine ~ Feminine forms *bol'noj ~ bol'naja* are distinct forms of a single lexeme. However, sex differentiation elsewhere in the Russian lexicon is a matter of lexeme formation (derivation), not inflection, and current lexical theories don't permit us to state these facts and draw the relevant distinctions. We therefore need to modify conventional wisdom about lexical entries.

To see what such a modification should look like, let us first consider Russian 3rd person pronouns. These exhibit the same gender and number distinctions as adjectives, with gender being neutralized in the plural, just as with adjectives: *on* 'he', *ona* 'she', *ono* 'it', and *oni* 'they'. This means that their morpholexical signature is more like that of an adjective than that of a noun. In (47) I give the morpholexical signature for a personal pronoun (or demonstrative pronoun).

[12] Arguably, the [Gender:Common] attribute is supplied by a default rule which says that a PERSON predicate unspecified for sex in the semantic representation is automatically assigned Common Gender.

- (47) *Definition of morpholexical signature for 3rd person pronominals*

MLS(Pronoun) \Rightarrow
 \langle [MOR Class:Pronoun, Gen: α], [Case: β , Num: γ , Gen: δ] \rangle

We can think of the deadjectival converted nouns as 3rd person pronouns with an elaborated semantics, as seen from comparing (47) with (48).

- (48) *Definition of morpholexical signature for deadjectival nouns*

MLS($\langle A_i^* \dots \rangle \langle R^* \rangle$) \Rightarrow
 \langle [MOR AdjClass: i , Gen: α], [Case: β , Num: γ , Gen: δ] \rangle

The specification [AdjClass: i] refers to the fact that the declension type of the converted noun is inherited from the original adjective. In other respects, the morpholexical signature is that of the pronoun. The morpholexical signature for adjectival pronominals such as *drugoj* 'the/an- other', *každyj* 'each', *nikakoj* 'none' and so on, which can also be used either as adjectives or as converted nouns, will be essentially the same as that of *bol'noj*. This completes the analysis of regular converted personal nouns.

The final case to consider is that of surnames. A proper name has certain of the semantic properties of a pronoun but with constant reference. The twist with adjectival proper names is that they realize the sex of the referent morphologically. Thus, they must also have the morpholexical signature of the pronoun.

- (49) *Definition of morpholexical signature for surnames*

MLS(surname) \Rightarrow
 \langle [MOR AdjClass:Declinable, Gen: α], [Case: β , Num: γ , Gen: δ] \rangle

For names such as *Tolstoj* and *Ratušinskaja*, the attribute Declinable has values Standard, for *Puškin* and *Makarova* it has the value [Possessive: Surname], a subtype of the [Declinable:Possessive] type which inherits some of its forms from the [NounClass:1a] paradigm. Rule (49) will also cover the Czech adjectival surnames of the type *Pokorný/Pokorná*. For the *Novák/Nováková* type we would need a slightly different suffixation rule, adding *-ov* and specifying in the morpholexical signature MOR [AdjClass: [Declinable:Standard], Gen:Fem].

8. CONCLUDING REMARKS

We started with a puzzle concerning the lexemic status of a class of derived nouns. Do we regard *bol'noj/bol'naja* and *učaščijsja/učaščajasja* as forms of a single lexeme each or as two separate lexemes? If they are separate lexemes, how is it that they share all of their properties except for gender and how is it that the gender alternation is so regular? If they are forms of a single lexeme, how do we record the fact that a noun can be inflected for gender, when normally the gender of Russian nouns is an inherent property, not a fact of inflection?

It is clear that the converted nouns have the semantic representation of a noun and not an adjective. However, I have argued that the conversion process preserves that part of the morpholexical signature that defines the word as formally an adjective. Because adjectives inflect for gender, this means that there is a set of forms available from the paradigm which can be taken over to signal gender differentiation. This allows the converted nouns to behave in the same way as adjectival pronominals such as *drugoj* 'other' or indeed like 3rd person pronouns. Moreover, the same perspective applies to adjectival surnames. To the extent that we can say that 3rd person pronouns belong to a single lexeme, we can therefore regard gender-inflecting converted nouns and surnames as forms of a single lexeme.

Russian is not unique in this, of course. Other Indo-European languages present essentially the same picture. Standard German provides one particularly interesting twist. A German adjective takes different inflectional paradigms depending on the type of determiner it cooccurs with, e.g. *ein guter Mann* 'a good man', but *der gut-e Mann* 'the good man' (Hammer 1971: 48f.). Deadjectival noun formation is very regular and such converted nouns exhibit the same morphosyntactic peculiarity when they appear in phrases (Hammer 1971: 54f.): *ein Angestellter* 'an employee (male)', *eine Angestellte* 'an employee (female)', *der/die Angestellte* 'the employee (male/female)'. There are certain deviations from the expected declension in some cases but the point is that a salient morphosyntactic property of adjectival agreement is preserved even under noun conversion. It would be interesting to investigate what other adjectival properties are preserved under conversion in other languages.

We may ask whether the converted nouns and their kin are 'real' nouns (or indeed 'real' adjectives). However, this is not, to my mind, a fruitful or interesting question. These words have properties of both nouns and adjectives therefore and one might wish to think of them as 'mixed categories'. However, they differ in important ways from transpositions such as participles, relational adjectives or deverbal nominals. That type of transposition preserves the semantics but changes the morphosyntactic features (including lexical category). The converted nouns change their syntactic category and their semantics but preserve their morphological (inflectional) category. It would be interesting to look for other cases where morphology is preserved under syntactic/semantic derivation in this way. An obvious case in point would be the 'descriptive nouns' found in many American languages, such as Navajo, in which a noun is formed from a phrase which retains a variety of finite verb inflections (see Spencer 2000: 317 for discussion).

The fact that lexical categories turn out to be 'mixed' in at least two distinct ways illustrates the extent to which the concept of 'lexical category' is a derived notion. In the present case it is a function of at least the morpholexical signature and the argument structure of the lexeme. These are

the real primitives of lexical categorization and they can be combined in ways that give categories which are distinct from the canonical verb, noun or adjective. But there is no need to be surprised or worried by this provided we have the right primitives and the right combinatorial theory for them. Nonetheless, the deadjectival nouns discussed here raise important questions about the nature of lexical categories and the notion of the lexeme, and any complete theory of lexical structure and lexical relatedness will have to take full account of them.

REFERENCES

- Academy Grammar (1970). *Grammatika sovremennogo russkogo literaturnogo jazyka* [The grammar of modern literary Russian]. Moscow: Izdatel'stvo Akademii Nauk SSSR.
- Academy Grammar (1980). *Russkaja grammatika* [Russian grammar]. Moscow: Nauka.
- Aronoff, M. (1994). *Morphology by itself*. Cambridge, MA: MIT Press.
- Booij, G. (1994). Against split morphology. In Booij, G. & van Marle, J. (eds.), *Yearbook of Morphology 1993*. Dordrecht: Kluwer Academic Publishers. 27–49.
- Borras, F. M. & Christian, R. F. (1971). *Russian syntax: aspects of modern Russian syntax and vocabulary* (2nd edn.). Oxford: Clarendon Press.
- Brown, D., Corbett, G., Hippiusley, A., Fraser, N. & Timberlake, A. (1996). Russian noun stress and network morphology. *Linguistics* 34. 1–55.
- Corbett, G. G. (1982). Gender in Russian: an account of gender specification and its relationship to declension. *Russian Linguistics* 6. 197–232.
- Corbett, G. G. (1983). *Hierarchies, targets and controllers: agreement patterns in Slavonic*. London: Croom Helm.
- Corbett, G. G. (1991). *Gender*. Cambridge: Cambridge University Press.
- Fraser, N. & Corbett, G. G. (1995). Gender, animacy, and declensional class assignment: a unified account for Russian. In Booij, G. & van Marle, J. (eds.), *Yearbook of Morphology 1994*. Dordrecht: Kluwer Academic Publishers. 123–150.
- Giannakidou, A. & Stavrou, M. (1999). Nominalization and ellipsis in the Greek DP. Ms., ILLC-University of Amsterdam & University of Thessaloniki.
- Hammer, A. E. (1971). *German grammar and usage*. London: Edward Arnold.
- Haspelmath, M. (1996). Word-class-changing inflection and morphological theory. In Booij, G. & van Marle, J. (eds.), *Yearbook of Morphology 1995*. Dordrecht: Kluwer Academic Publishers. 43–66.
- Higginbotham, J. (1985). On semantics. *Linguistic Inquiry* 16. 547–621.
- Isaenko, A. V. (1962). *Die russische Sprache der Gegenwart, Teil I: Formenlehre*. Halle: Max Niemeyer Verlag.
- Jackendoff, R. S. (1990). *Semantic structures*. Cambridge, MA: MIT Press.
- Kester, E.-P. (1996). *The nature of adjectival inflection*. Utrecht: Onderzoeksinstituut voor Taal en Spraak.
- Kopčevskaja-Tamm, M. & Šmeljov, A. (1994). Aljošina s Mašej stat'ja (o nekotoryx svojstvax russkix 'pritjažatel'nyx prilagatel'nyx') [Alyosha and Masha's article (on certain properties of Russian 'possessive adjectives')]. *Scando-Slavica* 40. 209–228.
- van Marle, J. (1985). *On the paradigmatic dimension of morphological creativity*. Dordrecht: Foris.
- Padučeva, E. V. (1996). Vid i leksičeskoe značenie glagola [Aspect and the lexical meaning of the verb]. In Padučeva, E. V., *Semantičeskie issledovanija* [Semantic investigations]. Moskva: Jazyki russkoj kul'tury. 84–102.
- Sadler, L. & Spencer, A. (2001). Syntax as an exponent of morphological features. In Booij, G. & van Marle, J. (eds.), *Yearbook of Morphology 2000*. Dordrecht: Kluwer Academic Publishers. 71–96.
- Spencer, A. (1998). Relational adjectives and the redundancy of lexical categories. In Booij, G., Ralli, A. & Scalise, S. (eds.), *Proceedings of the First Mediterranean Conference of Morphology, 1997*. University of Patras. 19–29.
- Spencer, A. (1999). Transpositions and argument structure. In Booij, G. & van Marle, J. (eds.), *Yearbook of Morphology 1998*. Dordrecht: Kluwer Academic Publishers. 73–102.

ANDREW SPENCER

- Spencer, A. (2000). Morphology and syntax. In Booij, G., Lehmann, C. & Mugdan, J. (eds.), *Morphologie. Ein internationales Handbuch zur Flexion und Wortbildung* (1. Halbband). *Morphology. An international handbook on inflection and word-formation* (vol. 1). Berlin: Walter de Gruyter. 312–335.
- Stump, G. T. (2001). *Inflectional morphology*. Cambridge: Cambridge University Press.
- Wade, T. (1994). *A comprehensive Russian grammar*. Oxford: Blackwell Publishers.
- Williams, E. (1981). Argument structure and morphology. *The Linguistic Review* 1. 18–114.
- Zaliznjak, A. A. (1967). *Russkoe imennoe slovoizmenenie* [Russian nominal inflection] Moscow: Nauka.
- Zaliznjak, A. A. (1977). *Grammatičeskij slovar' russkogo jazyka* [A grammatical dictionary of Russian]. Moscow: Russkij Jazyk.

Author's address: Department of Language and Linguistics, University of Essex, Wivenhoe Park, Colchester CO4 3SQ, U.K.
E-mail: spena@essex.ac.uk