Abstract
I pursue the concept of a generative lexical device, which organizes the mapping between conceptual and linguistic representations. The design of the interface function between grammar and concepts upholds a modular conception of linguistic structure building even in environments where information from various computational levels have to be calculated. Against this background, I argue that the German copula werden ('become') imposes two core conditions on its adjectival complement: i.) The state that holds after the denoted transition has to represent a non-controlled property of the subject nominal and ii.) the planned construction must not be blocked by a higher frequent lexical form. Several conceptual and grammatical tests are applied and examined for their explanatory adequacy. As regards the CONTROL restriction, it is illustrated that a generic reading of the subject nominal converts a controlled into a non-controlled property thus saving the derivation of werden-complexes like kostenlos werden, which fails under a specific (i.e. non-generic) reading. Furthermore, the illegality of DATIVE nominals – tolerated by most unaccusative verbs – is motivated by means of structural rationales, which reflect the semantic CONTROL condition. The factor of BLOCKING is associated, first, with the compositionality of the (semantically identical) blocked form and, second, with the attestability of the blocked form, for which some empirical evidence is gathered. I maintain the position that werden does not impose any rigorous event structural condition on its complement: It realizes both achievement as well as accomplishment expressions to an equal extent.

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1 A look into the mental lexicon

Any theory of lexical selection has to cope with the questions of i.) how idiosyncrasies in the mapping between semantics and syntax can be kept at a minimum and ii.) how factors deriving from grammatical and semantic but also pragmatic and encyclopedic knowledge work together in order to determine lexical selection.

As for the second question, according to the two-step model of lexical access (see Levelt et al. (1999); Vigliocco et al. (2002)) lexical selection or lexical encoding is completed in two computationally discrete steps: First, the lexical concept is grammatically encoded – an operation that interfaces conceptual and preverbal processes and produces a lexico-semantic and a syntactic output. Only then can the (morpho-)phonological code of the lexical unit be activated. The competing alternative holds that the activation of a lemma automatically activates the corresponding form information such that lexical information spreads through the different levels in a parallel manner (cf. Cutting & Ferreira (1999); Dell (1986)). From a theoretical perspective, the former view – i.e. the serial model – logically allows for cases where a grammatical string can be assembled but no (morpho-)phonological realization can be achieved. For processing, so-called tip-of-the-tongue phenomena are typical of this constellation, where the mapping of information from one level to the other is blocked (cf. Meyer & Bock (1992)). A similar situation exists in cases where a grammatical representation can be composed but it cannot be realized phonologically (or articulated) for some grammar-external reason like a blockage by a higher frequent form or for some pragmatic reason. These, however, are independent external factors intervening during the computation, which are not systematically associated with the interface between the grammatical and the articulatory components. How can we allow for this type of interference in a theory that upholds the view of a strictly sequential computation of information? In these cases neither of the above models can provide a systematic account for the interplay of the factors involved in lexical selection.

The first question above is related to the insight that the mental lexicon is not to be viewed as a repository of idiosyncrasies and, therefore, located outside of core grammar – a position that originates from Bloomfield (1933). Under this perspective compositional processes of lexical productivity are forced onto the independent levels of syntax and phonology. In contrast, in accordance with Bierwisch & Schreuder (1992); Jackendoff (1983); Pustejovsky (1995) and many others, the mental lexicon contains a generative device, which processes word-internal as well as -external information. The corresponding decompositional approach towards lexical structure enables us to grasp lexical productivity by means of a systematic analysis of the primitive components words consist of. The opposite, holistic view on lexical structure (cf. Fodor et al. (1975); Roelofs (1997) and others) is confronted with the problem of a high degree of stipulation in how certain classes of lexical meanings are realized morpho-syntactically. In
employing decompositional structures, lexical components of words can be seen as those elements of meaning that are necessarily visible in grammar such that a truth value can be assigned to the expression to be verbalized. Productivity, i.e. the formation of new words as well as the combination of words to form phrases, is mainly driven by the combinatorial properties of the lemmata. The combinatorial properties are associated with the lemma’s argument structural capacity, which derives from the compositional structure of the lemma. The linking between argument structure and syntactic realization is determined by language specific properties like word order or case regularities (cf. Wunderlich (1997)). To keep dispensable information in the lexicon as minimal as possible, Jackendoff (1975) posits redundancy rules that constitute links between the lexical entries. These rules determine – in the sense of abstract templates – how a morpho-syntactic realization like the plural form or the application of a specific lexical format such as the causative schema is realized with different classes of lexical entries.

In sum, the conception of lexical processing advocated here comprises the following main characteristics (cf. Härtl (2001); Härtl (2003)): The mental lexicon operates on the basis of a generative device – a lexical system – which administers lexical entries. They contain morphosyntactic and phonological information. Abstract semantic information determines the entry’s decompositional structure, which on its part controls the lemma’s linking to syntax. The lexical entries are activated and inserted into the linguistic representation in the process of the mapping between conceptual/contextual and grammatical representations. Thus, the lexicon is not considered to be the interface between non-linguistic and linguistic information but a separate level of linguistic computation. The interface between concepts and grammar (cf. the verbalization function VBL of Bierwisch & Schreuder (1992)) is controlled by a set of verbalization rules, which determine the appropriate realization of the propositional content to be verbalized. Consequently, these rules have access to both non-linguistic conceptual (CS) and contextual (CT) information (like the thematic function of the event participants) and linguistic information (like the event structural properties of verbs instantiated in the Aktionsart represented in the lexico-semantic representation SF of a verbal complex). The following mapping example illustrates the modus operandi of the verbalization function VBL in a simplified manner:

(1) \[ \text{VBL}(\text{CS}, \text{CT}) = \text{SF} \]
\[ \text{VBL}(\text{AGENT}(x, e_1), \text{CAUSE}(x, e_2)) = \text{CAUSE}(x, \text{BECOME}(Q)): Q = e_2 \]

The formula in (1) mirrors the following verbalization regularity: For any individual which has been conceptualized as an AGENT of an eventuality and which has been identified as a causer of another eventuality, the verbalization function returns a causative verbal expression in the lexico-semantic representation of the grammatical system. In this manner, the complex interplay of the numerous factors, which derive from different knowledge sources and which affect the
mapping between concepts and grammar is controlled by a restricted interface device, which for any input information produces a predictable output structure.

The current paper seeks to test the above assumptions by determining and operating the lexical properties the copula *werden* (*become*) is equipped with. *Werden* provides an ideal test case as to how to minimize idiosyncrasies in the lexicon and to define the interplay of distinct factors involved in lexical selection. As we will see, the selection restrictions of *werden* derive from i.) pragmatic-encyclopedic factors, ii.) pragmatic blocking factors, iii.) conceptual-semantic factors, and iv.) event structural factors.

In this paper, I will restrict myself to adjectival predicatives. Nominal predicatives expressing the instantiation of a profession of the type *to become a teacher* etc. require separate assumptions to be set apart from the limitations on copula-predicative constructions involving adjectives. I will verify the hypothesis that there are two core conditions the complement of *werden* is subject to: First, the instantiated state expressed with the *werden*-complex must be able to represent an uncontrolled property and, second, the *werden*-complex – though compositional – must not be blocked by a higher frequent lexical unit. In addition, I will argue that copula-predicative constructions containing *werden* do not preferably express durative processes as opposed to non-durative punctual transitions. Finally, I will sketch how the truth conditions I have defined are to be conceived. These trigger the computation of the meaning postulates of the lexical units involved such that an adequate lexico-semantic representation can be generated.

2 The combinatorial restrictions of *werden*

2.1 Pre-requisites

*Werden*-constructions\(^1\) show the behavior typical of unaccusative complexes (Perlmutter (1978)) in the formation of adjectival participles and the auxiliary selection in the perfect tense:

\begin{align}
\text{(2)} & \quad \begin{alignat}{2}
\text{a.} & \quad \text{Marlon wurde dick.} \\
& \quad \text{'Marlon became fat'} \\
& \quad \text{a'. der dick gewordene Marlon.} \\
& \quad \text{'the fat become Marlon'} \\
\text{b.} & \quad \text{Charlton ist/*hat starrsinnig geworden.} \\
& \quad \text{'Charlton is/*has stubborn become'}
\end{alignat}
\end{align}

\(^1\) The passive and the future tense auxiliary *werden* is not considered in this paper.
Note that 'unaccusativity' does not imply here that the subject nominal derives from an internal argument position. Rather, it is the copula, which is responsible for the unaccusativity of the complex. The adjective itself predicates over an external argument (see section 2.4 below also):

(3)  

<table>
<thead>
<tr>
<th>a.</th>
<th>Mr. Ripley ist auf Dickie neidisch.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>'Mr Ripley is envious of Dickie'</td>
</tr>
<tr>
<td>b.</td>
<td>der neidische Mr. Ripley</td>
</tr>
<tr>
<td></td>
<td>'the envious Mr Ripley'</td>
</tr>
<tr>
<td>c.</td>
<td>der Neider</td>
</tr>
<tr>
<td></td>
<td>'the envi-er'</td>
</tr>
</tbody>
</table>

The external status of the adjective's argument is also indicated by causative suffixations: The suffix –isieren ('-ize') internalizes an external argument (cf. Lieber (1998)):

(4)  

<table>
<thead>
<tr>
<th>a.</th>
<th>Das ZDF ist ein bisschen unmodern.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>'the ZDF is a bit unmodern (= unhip)'</td>
</tr>
<tr>
<td>b.</td>
<td>Stolte wollte das ZDF modernisieren.</td>
</tr>
<tr>
<td></td>
<td>'Stolte wished to modernize the ZDF'</td>
</tr>
</tbody>
</table>

Furthermore, the copula werden cannot be combined with verbs in their past participle form:

(5)  

<table>
<thead>
<tr>
<th>a.</th>
<th>*Die Arterie wurde blockiert.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>'the artery became blocked'</td>
</tr>
<tr>
<td>b.</td>
<td>*Die Wunde wurde geheilt.</td>
</tr>
<tr>
<td></td>
<td>'the wound became healed'</td>
</tr>
<tr>
<td>c.</td>
<td>*Charlize wurde eingeladen.</td>
</tr>
<tr>
<td></td>
<td>'Charlize became invited'</td>
</tr>
</tbody>
</table>

I share Zimmermann's (1999) view that the ungrammaticality of the above examples originates from the illegitimate doubling of an inchoative (or terminative) meaning that is inherent to both the copula as well as the verb in its participle use. In German, redundant combinations of this type (as in *Hans ist lesend, 'John is reading' also) are rejected since the verb alone expresses the corresponding Aktionsart-meaning. This is supported by the fact that participle forms are allowed with werden if they are lexicalized as adjectives and, therefore, have lost their temporal status:

(6)  

<table>
<thead>
<tr>
<th>a.</th>
<th>Donnie wurde bekannt.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>'Donnie became famous'</td>
</tr>
</tbody>
</table>

Also, the effect in (5) is not due to a blocking by the identical passive form because verbs that cannot be passivized (7a) are just as unacceptable here as verbs that can be passivized (7b):

(7)  

<table>
<thead>
<tr>
<th>a.</th>
<th>*Der Apfel wurde verfault.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>'the apple became decayed'</td>
</tr>
</tbody>
</table>
b. *Das Kartenhaus wurde zerstört.
‘the card house became destroyed’

Second, \textit{werden} combines only with attributive adjectives like \textit{einsam}, ‘lonesome’ (see (8)a)), but not \textit{allein}, ‘alone’, which cannot be used attributively (8)b). All other copulae (\textit{seem, stay, be} …), however, tolerate non-attributive adjectives (8)a’/b’):\footnote{I owe this observation to Manfred Bierwisch (p.c.). Whether apparent counter examples (like the non-attributive \textit{rechtens} (‘legal’) in \textit{Die Kindergeldkürzung wird rechtens}, ‘the cutback in child benefit becomes legal’ or the non-attributive \textit{alle} (‘empty’) in \textit{Die Flasche Schampus wurde ganz schnell alle}, ‘the bottle of champaign became empty very quickly’) shed doubt on the rigorousness of the above rule, still awaits a systematic exploration. In this context, the question of where to draw the borderline between adverbs and adjectives needs to be answered, which I cannot address here. In the following, only those expressions are explored and included in the analysis which can be used attributively.}

(8)  
\begin{enumerate}
  \item a. die einsame Ripley
    ‘the lonesome Ripley’
    \begin{enumerate}
      \item a.’ Sigourney scheint/bleibt/ist/*wird allein.
        ‘Sigourney seems/stays/is/becomes alone’
      \item b. *die alleine Sigourney
        ‘the alone Sigourney’
    \end{enumerate}
  \item b.’ Ripley scheint/bleibt/ist/wird einsam.
    ‘Ripley seems/stays/is/becomes lonesome’
\end{enumerate}

Third, \textit{werden} cannot be combined with spatial expressions. This holds for both prepositional phrases as well as spatial adverbs:

(9)  
\begin{enumerate}
  \item a. *Joaquin wurde in der/die Garage.
    ‘Joaquin became in the-DA T/the-ACC garage’
  \item b. *Tom wurde dort/dorthin.
    ‘Tom became there/there-DIR’
\end{enumerate}

It is possible that the directional preposition, which governs an ACCUSATIVE nominal may not be compatible with \textit{werden} because it doubles – once again – the terminative meaning of the entire expression. This view is supported by the following example, where a non-terminative verb successfully combines with a directional PP:

(10)  
\begin{enumerate}
  \item a. Der Teppich reicht in die Garage.
    ‘the carpet reaches in the-ACC garage’
\end{enumerate}

Why then is the non-directional preposition (governing the DATIVE) not allowed with \textit{werden} (see (9))) as this would not produce the illegitimate Aktionsart-doubling either? Consider the following \textit{werden}-examples indicating that the ungrammaticality of (9) cannot be motivated on structural grounds as the constructions also contain (non-spatial and lexicalized) prepositional phrases:
(11)  a. Der Fall wurde zu einem Problem.
    'the case became to a-\text{DAT} problem'
   b. Heisses Wasser wird schneller zu Eis.
    'hot water becomes faster to ice-\text{DAT} (= freeze)'

Leaving aside certain configurational rationales, which may have a stake here and which I cannot pursue in this paper, the ungrammaticalities in (9) should be associated with a lexico-semantic factor, which I will establish below: A change in an object's spatial position is necessarily \textit{controlled} and, therefore, can not be achieved without the intervention of some individual entity. Crucially, it is the opposite condition, which holds for \textit{werden}: The state following the transition must be able to represent a \textit{non-controlled} property.

According to the classical analyses of the \textit{become} predicate, \textit{become} imposes a truth condition like the following (cf. Dowty (1979); von Stechow (1996); Steinitz (1999)):

(12) \text{BECOME (φ) = 1 at time } t_n, \text{ iff } φ \text{ is true at } t_{n+1}, \text{ which immediately follows } t_n. \text{ φ is false at } t_{n-1}, \text{ which immediately precedes } t_n.

Traditionally, truth conditions of this sort are applied to capture the event structural properties of verb complexes or \textit{Aktionsarten} (see Vendler (1967)). Thus, verbal expressions denoting a change-of-state – in the sense of a transition – are covered by the condition in (12) and also cases where a multiplication of transitions (as in \textit{to eat up apples, to write a letter for years}) produces an expression reflecting an unbound process on the grammatical surface. Accordingly, \textit{werden} expresses a transition, which also holds for unbound \textit{werden}-processes as we find them in \textit{to become larger and larger} (but see the controversy on this in Steinitz (1999) and Musan (1999)). Here, an additional condition holds: Informally speaking, relative adjectives as \textit{large} refer to a scale and the transition in \textit{to become larger and larger} is associated with a point on this scale representing an instance of a comparison (see Bierwisch (1987) and Lang (1987)), which means that the state succeeding the transition holds above this point. In \textit{to become larger and larger}, the point of comparison changes constantly with a plurality of the transition such that on the dimensional scale each succeeding transition has to be above each preceding transition (cf. Krifka (1989)). As a result, the telicity of the corresponding expressions is not visible in grammar.

The truth condition in (12) is compatible with the grammaticality of the following examples:

(13)  a. Britney wird bald volljährig.
    'Britney becomes soon of full age'
   b. Elle wurde blind.
    'Elle became blind'

It fails, however, to exclude deviant cases like the following:
(14) a. *Hildegard wurde nackt. ³
    'Hildegard became naked'
b. *Das gelbe Buch wird kostenlos.
    'the yellow book became for free'
c. ??Denzel wurde für den Verkauf verantwortlich.
    'Denzel became for the sales responsible'
d. ??Dieser Brief wird portofrei.
    'this letter becomes postage free'
e. ??Die Teilnahme an der Wahl wurde freiwillig.
    'the participation in the election became voluntary'

We can conclude that the lexical constant BECOME as defined in (12) above does not equal the lexeme werden. For the latter, we need some additional condition to rule out cases like (14). As the examples in (13) illustrate, durativity or gradability, respectively, cannot be the decisive factor: werden-complexes can express both achievements as well as accomplishments, where the latter are basically formed with relative adjectives and the former with absolute adjectives. Conceptual feasibility presupposed, any relative adjective is allowed in the complement of werden whereas only a selection of absolute adjectives is allowed here (see Steinitz (1999)). I will explicate and flesh out this in the next section.

2.2 Achievability of the transition

In the following, I will exclude from the analysis those structures to which a linguistic string cannot be assigned for reasons that are not grammatical in nature: A significant number of adjectives is prohibited in the complement of werden because the subject entity of the complex cannot undergo the corresponding transition for some non-linguistic, encyclopedic-ontological reason. This fact deprives the following odd constructions of reasonable grammatical explanation:

³ A remark about the acceptability judgments made in this paper is required here: A werden-example is marked (i.e. *??/?) if it differs from the corresponding sein- ('to be') construction in its acceptability. In unmarked environments, there is no difference in acceptability between the two. Thus, the sein-construction is used as a baseline in the empirical sense. For an illustration, compare the following examples:
   i.) Das Ticket ist wertlos. ('the ticket is worthless')
      = Das Ticket wurde wertlos. ('… became worthless')
   ii.) Das Ticket ist kostenlos. ('the ticket is for free')
      # Das Ticket wurde kostenlos. ('… became for free')
(15)  a. *Diese Stadt wird südlich.
    'this town becomes southward'
b. *Diese Drossel wurde weiblich.
    'this mockingbird became female'
c. *Diese Zahl wird teilbar.
    'this digit becomes divisible'

The attributes in (15) represent true individual level predicates of the nouns in question (see Carlson (1980)). They express properties that cannot be altered. Thus, acceptability increases if the attribute is coerced into the reading of a temporary individual level predicate, which can be located in space and time (cf. Jäger (2000); Maienborn (2003)) and, thus, denotes an unstable property or a property, which is not determined yet as in (16)b):

(16)  a. Durch die Drehung der Landkarte wird diese Stadt südlich.
    'by a turn of the map this town becomes southward'
b. Dieser Fötus wird weiblich.
    'this fetus becomes female'
c. Diese Variable wird teilbar durch die funktionale Applikation.
    'this variable becomes divisible by the functional application'

As we see, the acceptability of these constructions is subject to context driven encyclopedic but not to grammatical argumentation. This reasoning does not hold for the constructions in (14) above because a change of the subject’s ontological category does not render these constructions more acceptable. So what is the reason for the failure of the adjectives in (14) to function as valid predicates of the copula werden?

2.3 Durativity

Hypothetically, it might be argued that werden + adjective exclusively denotes durative transitions, i.e. accomplishments in the Vendler sense (cf. Lang (1997)). Therefore, only relative (i.e. scalable) adjectives would be tolerated in the complement of werden. Following this line of argumentation then, relative but not absolute adjectives express gradable properties and can therefore be related to a temporally extended interval scale and, thus, denote a durative process. Relative adjectives but not absolute ones can be modified by a degree adverb (see (17) a/a’)) and only relative adjectives express properties relative to the set of objects to which the property is attributed (see (17)b/b’)), cf. Bierwisch & Lang (1989); Kennedy & McNally (1999) and others:
Holden Härtl

(17) a. Winona is slightly/mildly/extremely tall/fat/intelligent.4
    a'. *Winona is slightly/mildly/extremely pregnant/unemployed/male.
    b. Winona is a doctor and intelligent. –/>Winona is an intelligent doctor.
    b'. Winona is a doctor and pregnant. —>Winona is a pregnant doctor.

In example (17)b) in contrast to (17)b'), the conclusion that Winona is an intelligent doctor is invalid because the two sets denoted (i.e. the set of doctors and the set of intelligent people) do not necessarily form an intersection: In principle, within the set of doctors Winona might be a stupid one, which yet would not render the conjoined clause false.

On first glance, the fact that the adjectives in (14) are absolute could be used to explain their incompatibility with werden and, indeed, empirical testing shows that almost any relative adjective is allowed in the complement of werden. There is, however, a large number of absolute adjectives, which are also allowed here. They divide into two groups: i.) those which can be related to a temporal scale although they denote absolute properties and can realize accomplishments (see (18)), and ii.) those which cannot denote durative processes and, thus, realize achievements (see (19)):

(18) Group I:
    John wurde (in einem Jahr) blind/taub/stumm/kahlköpfig.
    'John became (within a year) blind/deaf/dumb/bald'

(19) Group II:
    Die Geschwister wurden (*in zwei Wochen)
    schwanger/volljährig/berufstätig/arbeitlos/unzertrennlich.
    'the siblings became (*within two weeks) pregnant/full of age/employed/unemployed/inseparable'

The absolute adjectives of Group I show a hybrid status: On the one hand, they are somewhat odd in the context of the degree particle very ("I am very blind"), which is totally perfect with relative adjectives. On the other hand, they undergo comparison ("I am even more deaf than you are"), which is prohibited with the absolute adjectives in Group II ("I am even more unemployed than you are"). The reason for this cross characteristic is that adjectives like blind, bald, deaf (i.e. Group I) can be easily coerced onto a graded quality scale (cf. Bierwisch (1989)). This implies that during the graded development of the transition, the attributed object does not necessarily exhibit the corresponding property yet. Nevertheless, the expressions explicitly denote telicity – which is why we can modify the adjectives in Group I with a degree expression like almost, which relates to a specific (end) point on a (quality) scale. This modification renders a certain oddity with genuine relative adjectives, where this point is left implicit:

4 In examples where no relevant difference between German and English shows up I will make use of English only.
(20)  a. Peter is almost blind/deaf/dumb/bald.
    b. *Peter is almost tall/fat/intelligent.

Crucially, a different picture emerges with the adjectives of Group II: With them, the truth of a werden-expression necessarily implies the immediate initiation of the truth of the corresponding property. In sum, I agree with Steinitz (1999) that there is no convincing evidence for assuming a gradability restriction on the werden-complement such that werden-complexes can realize durative processes only. This is supported by the fact that worden + relative adjective complexes can realize both achievements (= (21) a)) and accomplishments (= (21)a')), which is illustrated by the following temporal specifications (cf. Musan (1999)). This property also holds for the absolute adjectives of Group I in (18) above:

(21)  a. Somit wurde John auf einen Schlag reich/blind.
    'thus John became suddenly wealthy/blind'
    a'. Somit wurde John über die Jahre reich/blind.
    'thus John became over the years wealthy/blind'

As the examples in this section illustrate, worden + adjective complexes can be both punctual as well as durative. Therefore, the reason for the oddity of *nackt/kostenlos/ursächlich werden ('become naked/for free/causal', compare (14) above) must lie elsewhere.

2.4 Control and object-defining properties

2.4.1 The data

We observe striking differences in acceptability when considering worden-constructions with pairs of adjectival complements which seem to be strongly related in their (abstract) meaning:

(22)  a. Die Tickets wurden wertlos.
    'the tickets became worthless'
    a'. ??Die Tickets wurden kostenlos.
    'the tickets became for free'
    b. Peters Haar wurde asch-blond.
    'Peter's hair became ash blonde'
    b.??Peters Haar wurde wasserstoff-blond.
    'Peter's hair became peroxide blonde'
    c. Die neue Datenbank wird kopierbar.
    'the data base became copyable'
    c.??Doris wird für den Schaden haftbar.
    'Doris became for the damage liable'
Intuitively, the difference in meaning between adjectives in (22)a/b/c) and (22)
a'/b'/c') appears to be linked to a difference in whether or not the denoted prop-
erty defines the object ontologically in such a way that its existence (or its in-
stantiation, see below) cannot be controlled by some entity. Principally, the
worthlessness of a ticket cannot be reversed, only ash blonde but not peroxide
blonde is a natural hair color, and copyability is associated to an inherent condi-
tion of the subject entity, whereas liability is obligatorily controlled by some
state authority. In the literature, this characteristic of werden-complexes has
sometimes been linked to the spontaneity of the denoted process (see Amrhein
(1996: 68)) or to the fact that werden-constructions neither inform about the
conditions which may bring about the change-of-state, nor do they specify a
cause for the event (see Lucht (2000:45-48)). Following these ideas, I will asso-
ciate the selectional conditions for the adjectival werden-complement with its
capacity to express an uncontrolled property. As will be shown below, the factor
of CONTROL is related to the potential of the denoted attribute to express an
object-defining property in those cases where the derivation would crash other-
wise.

Following introspection, the deviant examples in (22) are "grammaticalized" best by constructions like the following:

(23) a.' Das Gemälde wurde kostenlos abgegeben.
    'the painting became for free given away'
 b.' Peters Haar wurde wasserstoff-blond gefärbt.
    'Peter's hair was peroxide blonde dyed'
 c.' Doris wurde für den Schaden haftbar gemacht.
    'Doris was for the damage made liable'

In these examples, an agentive entity (demoted by passivization) is expressed.
This entity controls the instantiation of the corresponding property. This is where
the difference between werden-complexes and passive constructions lies: The
former never express an controlling entity. Thus, the oddity of the examples in
(22) is explained by the fact that the denoted object properties can never be
instantiated without the control of some entity. Other examples are bereit (‘rea-
dy’), frei (‘free’), or nackt (‘naked’). In the following, I will test this hypothesis:
Adjectives which require obligatory control of the denoted property are prohib-
ited in the complement of werden.

2.4.2 Testing control: concepts and grammar

According to Kaufmann (1995) the notion of control is bound to an instance of
an individual which determines the (spatial or temporal) existence of a certain
situation (cf. also Wunderlich (2001)). Against this background, let us agree upon the following definition of control as a starting point:

\[
\text{CONTROL}(z, \phi) \rightarrow [\neg \exists z \rightarrow \neg \phi]
\]

i.e. if an entity \( z \) controls a situation \( \phi \), then if there is no \( z \), then there will be no \( \phi \).

Consequently, a negated existential quantifier produces the truth condition for non-controlled situations:

\[
\neg \exists z \left[ \text{CONTROL}(z, \phi) \right]
\]

CONTROL is associated with a broad range of linguistic phenomena like thematic role content, intentionality, causality etc. and although Kaufmann's definition given above provides a useful starting point for the conceptual description of underlying (non-) control expressions in language, the heterogeneity of the notion causes severe problems when testing it in grammar. In the following, I will explore some of the traditional tests applied to reveal control constellations and illustrate in how far they can be reliably linked to \( \text{werden} \)-phenomena.

First, let us relate the notion of control to the notion of causality: Any causal entity also controls – at least in its instantiation – the existence of the resultant situation. In the literature, \( \text{by itself} \) has been applied to probe the presence of a causal or agentive entity in a linguistic string (cf. Chierchia (1989)). Levin & Rappaport Hovav (1995:88) use this diagnostic and seek to prove the existence of a causal/agentive entity present in alternating unaccusative verbs, where \( \text{by itself} \) yields the meaning of "without outside help":

\[
\begin{align*}
\text{(26) a.} & \quad \text{The plate broke by itself.} \\
\text{b.} & \quad \text{The door opened by itself.} \\
\text{c.} & \quad \text{The skirt dried by itself.}
\end{align*}
\]

Expressions in which no causal argument can be assumed to be present (or re-construcatable) in the underlying lexico-semantic representation, modification with \( \text{by itself} \) is prohibited, as is the case with unergative verbs see (27) a), intransitive psych verbs (27) b), or intransitive activity verbs (27) c):

\[
\begin{align*}
\text{(27) a.} & \quad \text{The plate broke by itself.} \\
\text{b.} & \quad \text{The door opened by itself.} \\
\text{c.} & \quad \text{The skirt dried by itself.}
\end{align*}
\]

\[\text{In order to allow for control from an external entity, Kaufmann (1995) differentiates between predicate control and situation control. Thus, the control constellations in medial expression like \text{Chinaware breaks easily} are covered, where the situation is controlled by the subject noun but the eventuality expressed by the verbal predicate is controlled by some generic agent. This differentiation is not relevant here because the notion of control used in this paper applies to both instances.}\]

\[\text{6 See the critical discussion on this argumentation in Härtl (2003). In addition, in sharp contrast to Levin & Rappaport Hovav's analysis of \text{by itself}, Fagan (1992) and Keyser & Roeper (1984) argue that (all) \text{by itself} is indeed compatible with agentlessness. The examples in (27) shed some doubt on the latter assumption as they either spell out an agent (like the activity verbs in (27)c)) or they are agentless per se (like the psych-verbs in (27)b)). Importantly, \text{by itself} triggers an entailment which implies that the verbal action or change could also have been achieved by some external entity.}\]
a. ??John weinte/zitterte/lachte von selbst.
   'John cried/shivered/laughed by himself'
b. ??Anita ärgert/fürchtet/langweilt sich von selbst.
   'Anita annoys/fears/bores REFL by herself'
c. ??Carmen tanzte/las/strickte [von selbst: scope over the VP].
   'Carmen danced/read/knit by herself'

Crucially, with werden-complexes in null-contexts the derivation is jeopardized too as soon as a by itself-adverbial is added:

a. ??Klaus wurde von selbst dick.
   'Klaus became by himself fat'
b. ??John wurde von selbst blind.
   'John became by himself blind'
c. ??Beoncé wurde von selbst arbeitslos.
   'Beoncé became by herself unemployed'
d. ??Ireen wurde von selbst blond.
   'Ireen became by herself blonde'

The reason for the oddity of both the examples in (27) and (28) lies in the fact that the adverbial produces a tautology: In all the above cases the verbal expression alone denotes the meaning of "without outside help" and an explication of this meaning component by means of by itself is redundant. Associating the notion of control with causality, this supports the hypothesis that the meaning of werden-complexes does not involve control. Why then are the following examples almost perfectly good, as they seem to contain an explicit causal entity expressed in a durch- ('through'-) adjunct similar to the passive by-phrase:

a. Jim wurde durch Kate dick.
   'Jim became through Kate fat'
b. Paul wurde durch Elizabeth blind.
   'Paul became through blind'
c. Brick wurde durch Skipper krank.
   'Brick became through Skipper sick'

The motivation lies in the fact that in these constructions the preposition durch equals wegen ('because of') in its meaning and not the passive von ('by') (cf. Rapp (1997)). wegen relates propositions to an (indirect) cause, origin, or purpose (cf. Härtl (2003)) and can be combined with almost any kind of verb complex: wegen Ben tanzen/lachen/weinen/schlafen ('to dance/ laugh/cry/sleep because of Ben'). Therefore, the durch in (29) can be easily replaced by wegen,

7 Note, however, that the sentences in (28) increase in acceptability under a contextual embedding where a potential causing entity has been introduced and the by itself-adverbial is used to deconstruct the causal relation between this very entity and the denoted change-of-state: A) John must have his hair dyed. B) No, John has become blonde by himself. These cannot by used as counter-examples because with them causality is just not expressed.
which is not possible with passive *von*-phrases as here an unintended meaning would be produced:

(30)  
a. Brick wurde durch/wegen Skipper krank.  
'Brick became through Skipper sick'

b. Die Dissertation wurde von/wegen Gerd geschrieben.  
'the thesis was by/because of Gerd written'

In principle, this shows that we cannot use the examples in (29) as evidence for the existence of an implicit causal entity controlling the *werden*-situation.

As a second step, let us assume that in surroundings where the concept of control cannot be verbalized, any expression involving intentionality is illegitimate too. Traditionally, the existence of an intentionally acting (implicit) entity has been tested by means of *purpose clauses* thus e.g. contrasting decausative with passive verbal complexes (cf. Levin & Rappaport Hovav (1995); Roeper (1987)):

(31)  
a. *The ship sunk in order to collect the insurance.

b. The ship was sunk in order to collect the insurance.

Purpose clauses require the presence of an intentionally acting entity in the lexico-semantic representations of the matrix verb complexes in question. Thus, they should fail to be acceptable with *werden*-constructions just as they are illegal with decausative verbs of the type in (31):

(32)  
a. ??Karl wurde volljährig/brünett/arbeitslos, um Kate zu beeindrucken.

b. 'Karl became full of age/brunette/unemployed, in order to impress Kate'

An identical effect can be detected with the corresponding constructions, which contain the stative copula *be*:

(33)  
a. ??Karl ist volljährig/brünett/arbeitslos, um Kate zu beeindrucken.

b. 'Karl is full of age/brunette/unemployed, in order to impress Kate'

According to the above hypothesis, in this environment, (the corresponding) adjectives denoting exclusively controlled properties – which are illegal with *werden*-complexes – should be allowed:

(34)  
a. Karl ist bereit/wasserstoff-blond/nackt, um Kate zu beeindrucken.

b. 'Karl is ready/peroxide blonde/naked, in order to impress Kate'

In a similar way, subordinate causal sentences denoting a final cause (*causa finalis*), which also express an intention are somewhat odd in the context of matrix *werden*-clauses:

(35)  
a. ??Karl wird volljährig/brünett/arbeitslos, weil er Kate beeindrucken möchte.

b. 'Karl becomes full of age/brunette/unemployed, because he wishes to impress Kate'
Under the assumption that the notion of control can reasonably be related to the notion of intentionality, we have gained further evidence for the adequacy of the above hypothesis. Besides, also the illegality of intensional adverbs in *werden*-contexts like *knowingly*, *purposely*, or *deliberately* sustains the perspective taken here:

(36)  
  a. Gunnar wird (absichtlich)
      groß/krank/blind/kahlköpfig/taub/arbeitslos/intelligent.
      'Gunnar becomes (deliberately)
      tall/sick/blind/bald/deaf/unemployed/intelligent'

There is one group of adjectives where a modification with a purpose clause is completely fine. These adjectives express an inherent condition deriving from a certain characteristic trait of the subject entity. So, on first glance, examples like the following pose a problem for the above hypothesis:

(37)  
  Arancha wird gewalttätig/zärtlich/garstig, um André zu überzeugen.
  'Arancha becomes violent/affectionate/nasty in order to convince André'

These examples contain *werden*-complexes that seem to involve an intentionally acting entity indeed, which the purpose clause confirms. How can we account for this under the assumption that *werden*-complexes denote the instantiation of an uncontrolled property? My argumentation is twofold: First, there is no reason to assume that the complexes in (37) necessarily express intentionality in null contexts. Rather, in null contexts they can refer to specific characteristic features of the subject entity where they are on a par with other such characteristics, which, in principle, are not achieved intentionally either (see (38)b)):8

(38)  
  a. Arancha wird gewalttätig/zärtlich/garstig.
      'Arancha becomes violent/affectionate/nasty'
  b. Arancha wird geizig/griesgrämig/sympathisch/spießig.
      'Arancha becomes thrifty/crabby/nice/narrow-minded.'

Second, it is not the characteristic itself to which the purpose clause in (37) relates but rather the agentive and intentional corollary action this characteristic implies. Therefore, purpose clauses are odd with properties like the ones in (38) b), which do not imply a corresponding intentional action:

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8 Note that for this argumentation to be valid, we do not have to assume – as one reviewer concluded – that the corresponding properties and also other personal properties like *fleißig* ('diligent') are acquired by mistake or accidentally. However, the argumentation does imply that the denoted properties relate to an inherent object quality in the sense of Kaufmann's notion of object defining property (s. Kaufmann (1995)) or the notion of individual level predicate as an expression of a permanent and essential quality (cf. Maienborn (2003)), which, in principle, cannot be altered in an intentional way.
(39) a. 'Arancha becomes thrifty/crabby/nice/narrow-minded in order to affect André'

Supporting evidence comes from languages which express aspect morphologically. For instance, in English for examples like (35) the progressive aspect needs to be chosen as in *Arancha is getting violent to convince André*. From this we can conclude that these *werden*-complexes are coerced into an activity reading where the canonical meaning of the adjective originates from a stative property in the sense motivated above (cf. footnote 8 also). Hence, *werden*-complexes like the ones in (37) can be considered instances of interpretative reasoning where an intentional activity has to be inferred from an inherent – thus uncontrolled – property of the subject entity. Therefore, in languages like Dutch, where the only possible reading of e.g. *nice* is an intentional and thus controlled one, *WERDEN* does not combine with it:

(40) a. 'Arancha became nice'

In conclusion, the existence of *werden*-complexes containing adjectives which imply an action resulting from the property does not invalidate the above hypothesis. Note that the notion of control also holds for structures which express a transition in the emission of sound:

(41) a. Die Maschine wurde laut.
   'the machine became noisy'
   b. Grete wurde sehr leise.
   'Grete became very quiet'

Although it is certainly true that somebody can control his or her own sound level, nevertheless, these adjectives relate to an uncontrolled property as they involve the perception of sound, i.e. a cognitive process in a different entity, where this processes is not accessible to any controlling entity. That means that adjectives like *laut*, *leise* ('noisy', 'quiet') trigger an implicature like the following:

(42) a. $\exists x \left[ \text{ NOISY}(x) \right] \rightarrow \exists z \left[ \text{ PERCEIVE}(z,x) \right]$

Remember that the truth condition for control required the existence of an entity on which the existence of the corresponding situation is dependent (see (24) above):

(43) CONTROL(z,\phi) \rightarrow [\neg z \rightarrow \neg \phi]$

So, in examples like in (41) the notion of non-control is bound to an implicated entity (= z in (42)) of a PERCEIVE-event, which illustrates that (non-)control is not necessarily determined by the entity in the subject of *werden*-complexes.
The phenomena discussed so far mainly relate to conceptual aspects of the expressions under consideration. Structural evidence for the above hypothesis comes from an analysis motivating the oddity of a dativus (in) commodi in the following werden-contexts:

(44)  
      'the painting became the auctioner-DAT worthless'  
  b. ??Der Tänzerin wurden die Schuhe dreckig.  
      'the dancer-DAT became the shoes dirty'  
  c. ??Die Suppe wird der Köchin heiß.\(^9\)  
      'the soup becomes the cook-DAT hot'

In the environment of a werden-complex, a DATIVE nominal can only be interpreted as ethicus. This is in sharp contrast to change-of-state expressions in which a DATIVE nominal can be associated with the (unintentional) causer of the corresponding change-of-state thus producing an (in) commodi-reading of the DATIVE:

(45)  
  a. Der Teller zerbrach dem Richter.  
      'the plate broke on the judge'  
  b. Das Seil zerriss ihm.  
      'the rope tore apart on him'

Here, the DATIVE nominal can be interpreted as responsible for the denoted change-of-state. As the contrast between (44) and (45) illustrates, in werden-complexes the DATIVE nominal – as expected – cannot be interpreted causally. The structural reason for the difference between (44) and (45) lies in a difference in the linking configurations of the two complexes: According to Soriano (1999), with unaccusative verb phrases like the plate broke, the DATIVE can be associated (or co-indexed) with an external argument position of the verbal predicate thus triggering the potentially causal interpretation of the DATIVE nominal (but see Härtl (2003)). This (quirky) case linking is excluded with werden-complexes because the only available external argument position is occupied by the adjective's THEME argument. Analyzing the adjectival predicative as a small clause (cf. Heggie (1988); Stowell (1981)), the following tentative syntactic representation reflects the structural configurations that hold in copular sentences:

\[^9\] The degree expression zu 'too' renders the example in ((44)c) grammatical. Then, however, the dative nominal is interpreted as dativus iudicantis (cf. Ogawa (2003); Wegener (1985)) and figures as an argument of zu. I will not discuss this reading here.
John became blonde.

\[ \lambda x \quad [\text{BLONDE}(x)] \quad (\text{john}) \]

Figure 1: Copular small clause

In this configuration, the DP John functions as the external argument, which is linked into Spec,PredP, i.e. outside the maximal projection of the adjectival predicate (cf. Williams (1981)). Hence, no other nominal argument – as the DATIVE nominal – can be associated with the external argument position of the predicate. Note that the same constellation exists with unergative verbs. They predicate over an external argument as well, which renders a DATIVE nominal denoting a causal entity ungrammatical:

(47) *Lucy weinte/schrie/lachte dem Popstar.

‘Lucy cried/screamed/laughed the Popstar-DATIVE’

Associating the notion of CONTROL with causality and a corresponding external argument, we can take the above finding as evidence for the grammatical reflection of the non-causality of werden-expressions.

2.4.3 The generic reading

If the condition of CONTROL turns out to be empirically correct, it should account for the following contrasts:

(48) a. *Peter wurde nackt.

‘Peter became naked’

a.’ Ungeziefer ließ den Menschen nackt werden [im Verlauf der Evolution] \(^{10}\)

‘parasites made the humans naked become [in the course of evolution]’

a.” Der Mensch wird nackt, seine Wege werden nachvollziehbar. (Die Polizei wird wissen, wo ich bin.) \(^{11}\)

\(^{10}\) Source: FAZ.NET, 8th June 2003, [addendum by the author]
man will become naked, his ways will be traceable. (the police will know where I am)

b. *Dieses Buch wurde kostenlos.
   'this book became for free'

b.' Schulbücher werden kostenlos.
   'text books become for free'

c. ?Das Parken dieses Autos wird um 12:00 kostenlos.
   'the parking of this car becomes at 12:00 for free'

c.' Das Parken in der Innenstadt wird kostenlos.
   'parking in the city becomes for free'

d. ?Uma wurde eines Verbrechens schuldig.
   'Uma became of a crime guilty'

d.' Wer schweigt, wird schuldig. 12
   'who keeps silent, becomes guilty'

Why are the examples in (48)a'/a''/b'/c'/d') better than their deviant counterparts?
I will argue that the generic use of the subject NP produces an interpretation where the attribute denotes an object-defining property, this is, an uncontrolled property.

Attributes in generic contexts usually express object-defining properties: An object-defining property of an individual is an obligatory quality that is relevant to the conceptualization of the object and that cannot be discarded (see Kaufmann (1995); cf. Härtl (2003); Keller & Sorace (2003)). It defines the ontological sort to which an object belongs. Consequently, attributes referring to inalienable possession, sex, size, and any other primary qualities like state-of-matter represent object-defining properties.

Now, generic expressions define constitutive characteristics of kinds and genera (see Krifka et al. (1995) for an overview) and, thus, correspond to object-defining properties in the sense of individual level predicates (see Carlson (1982); McCawley (1993)). In particular, object-defining properties like sex, size, degree of intelligence, sight, and state-of-matter are qualities that are not open to controlling influence.13 This aspect provides an explanation for the acceptability of the constructions in (48): Since they are generic, the adjectives involved express object-defining properties, i.e. properties whose existence cannot be controlled. In contrast to (the) generic expressions, the odd constructions in (48)a–d) refer to specific points in space and time thus producing the illegal reading of a non-object-defining object property of the corresponding adjectives.

A remark about the intuitions about expressions like (48)b'/c') is required: The above argumentation – somewhat counterintuitively – implies that the cost-

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11 Source: Die Presse, 22.07.1995
(recorded by COSMAS of Institut für Deutsche Sprache, Mannheim)

12 Source: www.sonnenseite.com/fp/archiv/TV-Querdenker/ qu98schweigt.shtml

13 Natural forces are not explored here. See the discussion on this matter in Levin & Rappaport Hovav (1995).
free nature of textbooks or parking can be instantiated in an uncontrolled way. This is not the case, of course, but it does not invalidate the suggested analysis. First, in those constructions where the denoted property is a controlled one under a non-generic reading, the instantiation of this very property has to be controlled indeed. But, the property itself is converted into a non-controlled one in generic contexts. Second, changes-of-state are always caused by some entity, the question, however, is whether this is encoded in the linguistic string itself or simply logically entailed. For example, decausative verbs do not express causality either, although they entail a causing event encyclopedia, which, then again, is not visible in grammar. Therefore, they do not tolerate a modification with a by-phrase introducing a potential causing entity:

\[ (49) \quad * \text{The plate broke by John.} \]

The same is true for middle verbs. They entail the existence of a generic agent (cf. Fagan (1992)), who assesses a property of the subject noun, but do not express it grammatically:

\[ (50) \quad * \text{Liebesbriefe schreiben sich von Maria leicht.} \]

\['love letters write easily by Mary'\]

In sum, like decausatives and middles, \textit{werden}-complexes belong to the class of expressions which express changes-of-state and do not signify a causing or controlling entity in their linguistic representation.

In the preceding section, I have collected grammatical as well as conceptual evidence that the truth conditions of \textit{werden}-complexes containing adjectival predicatives i.) do not include a durativity constraint and ii.) impose a \textsc{control}-restriction on the adjectival complement such that the denoted property has to be a non-controlled one. In cases where the property is obligatorily controlled (like in \textit{to be naked}) the derivation can be saved under a generic reading only, which coerces the interpretation of a non-controlled property of a kind.

2.5 Lexical blocking

So far, the assumptions made do not rule out all ungrammatical cases as yet:

\[ (51) \quad a. \quad * \text{Peter wurde tot.} \]

'Peter became dead'

\[ b. \quad * \text{BMWs werden nach 10 Jahren kaputt.} \]

'BMWs become after 10 years broken'

\[ c. \quad * \text{IT-Firmen wurden häufig pleite.} \]

'IT companies became often bankrupt'

Being dead is obviously an uncontrolled property, \textit{kaputt werden} ('to get broken') does not gain acceptability even under a generic reading, which also holds for \textit{pleite werden} ('to go bankrupt'). Supposedly, these constructions – though
compositional – must be lexically blocked by more conventionalized forms, and this is indeed the case:

(52)  
a. Peter starb.  
'Peter died'

b. BMWs gehen nach 10 Jahren kaputt.  
'BMWs go after 10 years broken'

c. IT-Firmen gingen häufig pleite.  
'TT companies went often bankrupt'

This type of lexical blocking is an instance of lexico-syntactic blocking (cf. Briscoe et al. (1995); Copestake (1999); Giegerich (2001)): A construction which does not match the canonical regular linking conditions is used for pragmatic reasons, i.e. in order to fulfill the Gricean cooperation principles (see Grice (1975)), a linguistic sign is employed to which a linguistic community has agreed. From this, however, we cannot conclude that the conventionalized form is completely arbitrary. Apart from its diachronic motivation,14 e.g. for gehen, 'go' as the equivalent of werden, there seems to be an animacy condition on the subject. Animate nominals cannot function as subject of gehen, see (53) a/b). This explains the communicative effect of (53) c), which can be used in restricted contexts like in literary or colloquial language only:

(53)  
a. *Lucy ging krank.  
'Lucy went sick'

b. *Hannes ging dick.  
'Hannes went fat'

c. ??Peter ging tot.  
'Peter went dead'

We know that sterben (‘to die’) is restricted to animate subjects. Therefore, with STERBEN-meanings where the subject is inanimate, tot werden, 'become dead' has to be selected:

(54)  
Ein weiteres „Nebenprodukt“ des Kunstdüngers ist, dass die Böden tot werden.15  
'another by-product of the fertilizer is that the soils dead become'

The above definition of lexical blocking implies that the blocked form per se must follow the principles of compositionality, i.e. the blocked form as well as the blocking one exhibit an identical semantics. First, this means that – since it

\[14\] For instance, German tot, 'dead' derives from Old High German touwen (‘to die’), which lost the competition with sterben (‘to die’), which derives from Old High German sterbo (‘pest’). Also, Pleite in the sense of 'bankruptcy' entered Modern German not until the mid 19th century and was phrased pleite gehen, 'go bankrupt' as a reflex of a colloquial use of the meaning (see Pfeifer, W. (1993) Etymologisches Wörterbuch des Deutschen.).

is grammatical – the blocked form must be attestable, which includes both adult language, data from child language acquisition and also from regional varieties or closely related languages. The latter point is motivated by the insight that – identical conceptualizations presumed – parallel grammars should produce parallel linguistic constellations. Since blocking is not motivated grammatically, hypothetically, the structures blocked in a certain variety may not be blocked or blocked to a lesser extent in another variety of the same language. For instance, kaputt werden ('become broken') is much more acceptable in Austrian German than in German German, where kaputt gehen strictly rules out kaputt werden. The following data retrieved from the Austrian OZK corpus16 illustrates this: Eighteen samples of kaputt werden and sixty samples of kaputt gehen were recorded (see Appendix). Only one data for nackt werden (see (48)d) – which involves a generic subject nominal – could be retrieved from both the Austrian and Standard German corpus.

This ratio indicates that nackt werden – apart from its generic use – is not compositional whereas kaputt werden is indeed. An additional test criterion is provided by the substitution test: The occurrences of kaputt werden should allow a replacement by the blocking kaputt gehen, which is indeed sanctioned with the constructions from the corpus data (see the appendix section). No such synonymous form should exist for non-blocked *werden-constructions and, since there is no blocking form, a corresponding replacement should be prohibited with instances of nackt werden (cf. (48)a') and the appendix section):

(55)  a. #Ungeziefer ließ den Menschen nackt werden sich ausziehen, 'parasites made the humans get undressed'17
     b. #Der Mensch wird nackt zieht sich aus, seine Wege werden nachvollziehbar. Die Polizei wird wissen, wo ich bin.18

The inadequacy of the constructions in (55) is due to the semantic difference between WERDEN + NAKED and SICH AUSZIEHEN ('get undressed'): The latter is agentive, which constitutes a meaning component not contained in werden-complexes: As argued above, they exclusively denote uncontrolled properties (see page 13 above).

16 Source: COSMAS of Institut für Deutsche Sprache (IDS) Mannheim. The OZK CORPUS, which was used for the current analysis, contains 1.272.996 contemporary newspaper texts with a total of 233,576,061 words.
17 Source of the original sample: FAZ.NET, 8th June 2003.
18 Source of the original sample: Die Presse, 22.07.1995.
2.6 Truth conditions and lexico-semantic representation

In the previous section, I investigated the factor of LEXICAL BLOCKING and some of the corresponding regularities for the selection of werden constructions. One issue still remaining open concerns the implementation of the set of conditions in the model of lexical access sketched at the beginning of the paper. The overall picture of the combinatorial restrictions that has emerged in the course of the discussion is reflected in the following truth conditions:

(56) (i) \( \text{WERDEN}(φ) = 1 \) at time \( t_n \) or a time interval \( t_n \), iff \( φ \) is true at \( t_{n+1} \), which immediately follows \( t_n \), \( φ \) is false at \( t_{n-1} \), which immediately precedes \( t_n \).

(ii) \( \text{WERDEN}(φ) = 0 \), if \( φ \rightarrow \exists x \left[ \text{CONTROL}(x, φ) \right] \)

\( \text{WERDEN}(φ) = 1 \), if \( φ \rightarrow \neg \exists x \left[ \text{CONTROL}(x, φ) \right] \)

\( \ldots \text{CONTROL}(x, φ) \rightarrow \left[ \neg \exists x \rightarrow \neg φ \right] \)

(iii) \( \text{WERDEN}(φ) = 0 \), if \( \text{SF(WERDEN}(φ))) = \text{BLOCKED(SF(WERDEN}(φ))) \)

\( \ldots \text{BLOCKED(SF}) \rightarrow \left[ N(SF_i) << N(SF_k) \right] : SF_i = 1 \)

As is illustrated, werden-constructions allow for both durative as well as punctual transitions; see (i). Furthermore, the state that emerges from the transition can only be verbalized by means of a werden-complex if the denoted property is uncontrolled (ii). Control of a property presupposes the existence of an entity \( x \), which is responsible for the existence of the property (ii). Finally, werden-constructions are licensed if they are not lexically blocked by a significantly more frequent form under the condition that the semantic form of the blocked form meets the principles of compositionality (iii.).

These truth conditions are checked in the course of selecting werden when a corresponding change-of-state is to be verbalized. The verbalization function maps the conceptual structures onto a lexico-semantic representation (SF) containing werden iff this very representation meets the above truth conditions and, on the other hand, generates the intended meaning. Werden has the following predicate-argument structural format (cf. Steinitz (1999) and others). (Note that in the following, WERDEN represents the SF of the lexical entry of werden, while BECOME signifies the traditional BECOME-operator.)

(57) \( \lambda P \lambda w \lambda s \left[ s \text { INST } \left[ \text { WERDEN } \left[ P(w) \right] \right] \right] \)

To apply this function to an adjectival predicate that forms the complement of the copula, the verbalization function checks the meaning postulates the adjectival concept is equipped with. Thus, in a first step the verbalization function

---

19 Note that the condition in (56)(iii.) is not a truth condition for the propositional content but a truth condition for the linguistic expression to be verbalized: It would not be true (or verbalizable) if it is lexically blocked.

20 The INST predicate anchors the referential argument \( s \) in the semantic representation of verbs and combines \( s \) with the proposition expressed by the verbal complex.
ensures that the denoted instantiation of a state corresponds to a non-controlled property, which is a condition (\(\sim\)) for selection:

\[
\lambda w \lambda s [s \text{ INST } \text{WORTHLESS}(w)] : \sim \exists x [\text{CONTROL}(x, \text{WORTHLESS}(\text{THEME}, s))]
\]

If the property is an obligatorily controlled one,

\[
\lambda w \lambda s [s \text{ INST } \text{FOR FREE }(w)] : \exists x [\text{CONTROL}(x, \text{FOR FREE}(\text{THEME}, s))]
\]

the only option for the verbalization to succeed lies in the generic interpretation of the subject noun (see section 2.4), thus expressing membership in a given kind and producing the reading of a non-controlled property:

\[
[\text{WERDEN}(\phi) \land \text{CONTROL}(x, \phi) = 1] \rightarrow \text{Gn} \phi
\]

\[
\ldots \text{Gn} \phi(w) \rightarrow \lambda w \lambda s [\phi(w)]
\]

\[
\ldots \exists w \lambda s [\phi(w)] \rightarrow \sim \exists x [\text{CONTROL}(x, \phi)]
\]

The generic operator Gn (cf. McCawley (1993)) applies to kinds \((k)\) and not to individuals, which then brings about the reinterpretation of the property as a non-controlled one. Only then the derivation can succeed, where functional composition produces an SF of the following type:

\[
\lambda z \lambda s [s \text{ INST } \text{WERDEN}[\text{WORTHLESS}(z)]]
\]

Finally, the frequency of the werden-construction under consideration has to be compared with the frequency of (lexically competing) constructions with an identical meaning: If the SF in (61) is blocked by a more conventionalized – i.e. a higher frequent form – the derivation stops and the competing form (SF2) is selected:

\[
\text{SF}_1: \lambda z \lambda s [s \text{ INST } \text{WERDEN}[\text{WORTHLESS}(z)]], N_1
\]

\[
\text{SF}_2: \lambda z \lambda s [s \text{ INST } \text{BECOME}[\text{WORTHLESS}(z)]], N_2
\]

\[
N_1 < N_2
\]

\[
t(N_1, N_2): p < .05 \rightarrow \text{SELECT(SF}_2\text{)}
\]

As this implies, lexical blocking is considered a phenomenon that can be grasped in terms of grammar – i.e. lexical frequency – but has its roots in a communicational – i.e. pragmatic – condition. Generally, the various conditions are processed step by step, where the verbalization function controls lexical selection by matching the lexico-semantic and the conceptual components of the expressions involved. In this sense, the serial view on lexical access can be upheld even in a linguistic environment where an incoherent set of selectional restrictions is put into operation.
2.7 Open issues

The derivation illustrated here reflects the elementary steps in the selection of werden-constructions. I have deferred a formal discussion of the effects of e.g. animacy as were sketched above (see section 2.3). Also, I had to postpone a discussion of language specific differences in the verbalization of the type of transition explored here. For instance, the fact that English (*become naked), Russian (*стат голым), or Dutch (*naakt worden) do not allow the combination of unintentional become and the corresponding adjective either, supports the view that the underlying meaning cannot be conceptualized. On the other hand, even English and German display differences in this respect. For example, English allows get/become undressed/naked, which implies an agentive entity thus rendering a direct comparison between the two languages void:

(63)

a. France is filled with places where it is appropriate, even borderline compulsory, to get naked or go topless.21
b. Hallmark claims that King David did not become naked but only "uncovered" himself, meaning he removed "some clothing" but not all of his clothing.22

Above, we observed that German werden can combine with uncontrolled properties only, the examples in (63), however, express agentive – thus controlled – activities. So, we have evidence that English become and German werden differ from each other, which requires further investigation. Moreover, German gehen (‘go’) as equivalent for werden cannot be directly compared with English go though apparent parallels like pleite gehen and to go bankrupt seem to indicate this. Unlike German gehen, however, English go in the sense of BECOME allows animate subjects:

(64)    Our cat Annabel went blind/deaf/bald/sentimental when she was twelve.

The corresponding typological disparities still await a systematic exploration. Another issue left open here is the following: Hypothetically, the CONTROL condition might apply to only those cases, where the werden-transition is punctual, i.e. verbalized as an achievement complex. So far, there is no clear-cut evidence in support of this assumption. However, there is no definite counter evidence either. The empirical data discussed here may suggest this but since I do not have an independent motivation for assuming a close link between temporal aspects and aspects of control, a systematic exploration of this aspect was put aside for the moment.

Furthermore, I do not have a conclusive answer yet to the question why with *gehen* + adjective constructions an *(in)*commodi-DATIVE is allowed, whereas it is ungrammatical with (almost all) *werden*-complexes:

(65)  

a. Die Briefmarke ging dem Studenten kaputt.  
'the stamp went the student-DAT broken'

b. Die Firma ging dem Patron pleite.  
'the company went the patron-DAT bankrupt'

a.' *Die Briefmarke wurde dem Studenten wertlos.  
'the stamp became the student-DAT worthless'

b.' *Die Firma wurde dem Patron insolvent.  
'the company became the patron-DAT insolvent'

In section 2.4.1, I argued that the ungrammaticality of the DATIVE in *werden*-complexes is due to the fact that with them the position of the external argument is occupied. Thus, the DATIVE nominal cannot be associated (or co-indexed) with the external argument position and be interpreted as (unintentional) causer. I have also argued that *gehen*-complexes block the corresponding *werden*-form lexically, which per se follows the principles of compositionality. So why is the DATIVE tolerated with *gehen* but not with *werden*? Note that the pairs of examples in (65), which are comparable in their meaning, indicate that the DATIVE difference is not to be motivated on semantic but rather on structural grounds. One may argue that *gehen* as a surrogate of the copula *werden* hands down some structural properties of the corresponding lexical verb *gehen* ('to go'). Lexical *gehen* as a verb of motion is a member of the class of genuine unaccusative verbs (cf. Levin & Rappaport Hovav (1995)), which – the inanimacy of the subject noun presupposed – tolerate DATIVE nominals naturally:

(66)  

'the bullet rolled the teacher-DAT into the gutter'

b. Der Ball hüpfte der Prinzessin in das Loch.  
'the ball bounced the princess-DAT into the hole'

c. Der Kristall zersprang dem Zauberer.  
'the crystal burst the wizard-DAT'

d. Der Ballon zerplatzte dem Kind.  
'the balloon burst the child-DAT'

Accepting a virtual lexical status of *gehen*, the examples in (66)a/b) may serve as a motivation for the assumption that in copular *gehen* + adjective constructions, the DATIVE nominal does not require the position of an external argument with which it needs to be associated. This is because the DATIVE nominal can be treated as plain syntactic adjunct, which surfaces where it is inserted (Vogel & Steinbach (1999)). In conclusion, this allows us to maintain the view taken here and consider the unacceptability of complexes like *kaputt werden* ('become broken') instances of lexical blocking without any latent semantic motivation.
3 Conclusion

In this paper, I have pursued the concept of a generative lexical device, which organizes the mapping between conceptual and linguistic representations. The verbalization function accesses lexical units and controls their truth conditions by examining corresponding meaning postulates. The design of this interface between grammar and concepts allows us to uphold a modular conception of linguistic structure formation even in environments where information from various computational levels has to be calculated. Specifically, I have argued that the German copula werden imposes two core conditions on its adjectival complement: i.) The state that holds after the denoted transition has to represent a non-controlled property of the subject nominal and ii.) the planned construction must not be blocked by a higher frequent lexical form. Several conceptual and grammatical tests were applied and examined for their explanatory adequacy. As regards the CONTROL restriction, it was illustrated that a generic reading of the subject nominal converts a controlled into a non-controlled property thus saving the derivation, which would fail under a specific (or stage level) reading of the werden-complex. The factor of BLOCKING was associated, first, with the semantic compositionality of the blocked form and, second, with the attestability of the blocked form, for which some empirical evidence was gathered. Finally, I have maintained the position that werden does not impose any rigorous event structural condition on its complement. As was shown, werden can realize both achievement as well as accomplishment expressions to an equal extent.
Literature


* nackt werden

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Appendix

COSMAS SEARCH ROUTINE:

[WERDEN / KAPUTT: +/-3 WORDS]
N(kaputt) = 6843

**K97/JAN.01329 Kleine Zeitung, 08.01.1997; Grazer Baumschutz: Von Tränendrüse bis Zumutung**
Daß man keine Nadelbäume pflanzen läßt, weil sie durch die Luft kaputt werden könnten, heißt wohl, das Pferd von hinten aufzuzäumen. Richtig wäre es, die Luft zu verbessern!

**K97/MAL.44000 Kleine Zeitung, 23.05.1997; Pavillon viel zu klein**
In Wirklichkeit aber haben 17 Bauern Interesse an einem Platz im geschlossenen Kiosk, weil sie Angst haben, daß ihre Waren im Winter kaputt werden.

**K00/MAL.43673 Kleine Zeitung, 03.05.2000; Das Bündel richtig schnüren**
Den Koffer soll man nie zu voll stopfen: Der Inhalt zerknittert und der Koffer könnte kaputt werden.

**K00/MAL.49095 Kleine Zeitung, 20.05.2000; Cupsieger GAK ...**
Steckt man aber umgekehrt eine 1,5-V-Batterie z. B. in ein Schnurlostelefon, kann dieses an Überspannung kaputt werden.

**N99/JUL.32974 Salzburger Nachrichten, 21.07.1999; Flüchtlinge hoffen auf Flug in Heimat**
"Die billigen Schuhe, die sie am Anfang bekommen haben, werden schon kaputt."

**O95/FEB.21109 Neue Kronenzeitung, 28.02.1995; Comeback mit Schmerzen - aber Sigi fährt wieder!**
Schienbein, Wadenbein, Bänder in Knie und Knöchel - so ziemlich alles, was kaputt werden kann, ist im vergangenen Mai beim Sturz in Birkfeld kaputtgegangen, in einem Bein steckt noch immer eine Riesenschraube - doch Sigi fährt wieder.


**O97/APR.46119 Neue Kronenzeitung, 27.04.1997; Hansi Hinterseers liebstes Geschenk Während die Fans draußen...**

**O99/APR.55249 Neue Kronenzeitung, 25.04.1999; österreich, seit fünfzig Jahren bewundere ich dein Antlitz.**
Mit den Jahren schöner geworden und weiterentwickelt mit jenem Augenmaß, das nichts kaputt werden läßt von dem, was auch künftige Generationen dankbar genießen werden: Gesunde Landschaft, blühende Wirtschaft und eine weit hin wirkende und strahlende Kultur, die den Namen Steiermark mit Offenheit und Aufgeschlossenheit verbindet.
nackt werden

O99/SEP.155391 Neue Kronenzeitung, 26.09.1999; Deutschlands "Mann aus Eisen" stach mit seiner gelben Hornisse

"Ich bin für solche Fragen der falsche Mann", trotzt David. "Das Rennen ist lang, Autos werden kaputt, Piloten machen Fehler - wie soll man alles planen?" Und Hakkinen, philosophisch: "Ich sage nichts zum Thema Stallorder!"

O00/FEB.22375 Neue Kronenzeitung, 06.02.2000; Warnung vor peinlichen Pannen durch neue Magnet-Skiträger


P93/AUG.24707 Die Presse, 07.08.1993; Die Wiener Wirtes sind reif für "die Insel"


V98/AUG.37879 Vorarlberger Nachrichten, 08.08.1998; KONSUMENTEN FRAGEN

"Die Akkus meines Schnurlstelefons werden so schnell kaputt. Was mache ich falsch?"

V99/NOV.56086 Vorarlberger Nachrichten, 04.11.1999; Tipps für die Haarpflege

Gewaschenes Haar nie mit dem Handtuch "ribbeln". Dadurch geht der Glanz verloren und die Haare werden kaputt.

X98/MAI.20169 Oberösterreichische Nachrichten, 23.05.1998; "Kathi, kummmst a zur Dessous-Party?"

Die neuesten Neuigkeiten sind ausgetauscht, jetzt kann die Show beginnen - mit Pflegetips: "Die Stücke müssen mit 30 Grad gewaschen werden, unbedingt einen Wäschesack verwenden, und bitte macht's die Hakerl zu, damit die Spitzen nicht kaputt werden."

X00/FEB.06614 Oberösterreichische Nachrichten, 15.02.2000; Wenn an der Grenze eine Warnafel umfällt, ist das eine ernste Krise

Ist aber höchst unklar, weil das Staatsgrenzgesetz des Bundes zwar vieles über das Aufstellen von Warnafeln zu sagen weiß, aber nichts darüber, wer sie zu reparieren hat, wenn sie kaputt werden.

X00/NOV.54215 Oberösterreichische Nachrichten, 21.11.2000; Sparen beim Kopfschutz für Motorrad-Gendarmen

An die 30 Helme werden jedes Jahr durch Stürze beschädigt oder fallen hintunter. Dadurch werden sie kaputt und unbenützbar", begründet man bei der Wirtschaftsabteilung die Sehnsucht nach dem gesetzlich vorgeschriebenen Kopfschutz.