
INSTITUT FÜR SPRACHWISSENSCHAFT
UNIVERSITÄT ZU KÖLN

ARBEITSPAPIER NR. 35 (Neue Folge)

Qualities, Objects, Sorts, and Other Treasures:
GOLD-digging in English and Arabic

Leila Behrens
Hans-Jürgen Sasse

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Herausgeber der Reihe: Institut für Sprachwissenschaft
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D 50923 Köln

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If it truly **looks like gold** it most probably **is gold**. (BNC)

1 Introduction

The present booklet is intended to exemplify an approach we have been launching for some time under the name of "Lexical Typology". For details on the theoretical foundations and an explanation of the notion of "Lexical Typology" the reader is referred to Behrens/Sasse (1997), where a general outline of the approach is presented. We proceed from the assumption that lexicon and grammar are not independent linguistic modules or components but form an organic whole. Consequently, lexical and grammatical studies do not constitute separate subject matters of linguistic research but, rather, represent two different perspectives in the scientific study of a composite "lexico-grammar". Against this background, lexical typology is concerned with the investigation of typological variation and regularities in the interaction of lexicon and grammar, studied from a lexical perspective.¹

The basic motivation for the development of lexical typology was the impression that too much emphasis has been laid in the past on formal properties of grammar, neglecting fine-grained aspects of lexical semantics and their impact on the behavior and interpretation of grammatical forms. The need for a fresh look at the interweavement of the semantics of lexical units and the semantics of grammatical constructions was particularly felt in the realm of typological comparison, where coarse generalizations have traditionally dominated the scene. It is the exception rather than the rule that typologists go below the most general level of lexical categories ("nouns", "verbs", "adjectives", etc.) or the immediately following level of subcategorization ("transitive and intransitive verbs", "mass nouns and count nouns", etc.) when stating cross-linguistic regularities about the interaction of lexical units and grammatical constructions.

This is by no means surprising, for the investigation of the subtle details of lexicon-grammar interaction requires research in extraordinary depth, something that cannot readily be done for a large sample of languages to be compared. It requires extensive corpus research, supplemented by copious work with native speakers to evaluate the possible semantic range of lexical units and grammatical constructions, the generalizability of single cases, etc., information usually not found in average reference grammars. As will be evident throughout this work, this effort pays off, since it brings to the fore a wealth of new and important insights, without whose consideration cross-linguistic generalizations would often be premature and misleading.

¹ Several people have pointed out to us that the term "Lexical Typology" might be misleading insofar as one expects it to refer to a cross-linguistic study of (parts of) vocabularies such as, for example, the structure of kinship terminology systems. We recognize this problem and have addressed it in Behrens / Sasse (1997:1-2). But all alternatives proposed so far are either clumsy or likewise misleading. We would therefore like to adhere to this term here, especially also in view of the fact that a funded project located at the Department of Linguistics at the University of Cologne goes by the same name.

In the present monograph, we will deal with questions of lexical typology in the nominal domain. By the term "lexical typology in the nominal domain", we refer to cross-linguistic regularities in the interaction between (a) those areas of the lexicon whose elements are capable of being used in the construction of "referring phrases" or "terms" and (b) the grammatical patterns in which these elements are involved. In the traditional analyses of a language such as English, such phrases are called "nominal phrases". In the study of the lexical aspects of the relevant domain, however, we will not confine ourselves to the investigation of "nouns" and "pronouns" but intend to take into consideration all those parts of speech which systematically alternate with nouns, either as heads or as modifiers of nominal phrases. In particular, this holds true for adjectives both in English and in other Standard European Languages. It is well known that adjectives are often difficult to distinguish from nouns, or that elements with an overt adjectival marker are used interchangeably with nouns, especially in particular semantic fields such as those denoting MATERIALS or NATIONALITIES. That is, throughout this work the expression "lexical typology in the nominal domain" should not be interpreted as "a typology of nouns", but, rather, as the cross-linguistic investigation of lexical areas constitutive for "referring phrases" irrespective of how the parts-of-speech system in a specific language is defined.

Several semantic and pragmatic distinctions are involved in this linguistic domain. There are significant cross-linguistic differences with respect to the way languages handle these distinctions. Some of them are explicitly signaled by formal means of determination and quantification in particular languages but are left without any overt specification in other languages. There are pairs of distinctions which are clearly independent of each other in certain languages, thus allowing for complete cross-classification, whereas they appear to be strongly connected in others, either being complementarily distributed across mutually exclusive environments or being systematically collapsed in all environments in which they are permitted to occur. One of our long-term goals is to develop a fine-grained typological model of this domain by identifying and theoretically clarifying all those parameters which may, in the present stage of research, be considered as autonomous dimensions in language comparison, though not all of them are necessarily expected to be relevant in the description of a certain individual language.

In this work, we will introduce six dimensions and adduce arguments in favor of their logical independence and autonomy. In the first part, we will discuss these dimensions in general and illustrate them with data from English and other languages illuminating the semantic or pragmatic distinctions in question. We will then focus on the typological comparison of two languages, English and Arabic. Cross-linguistic studies in lexical semantics are usually motivated by the macrostructural investigation of a certain lexical area (e.g., "psych-verbs" or "relational adjectives") in more than one language. Here, we will use a rather different method. We will compare the microstructure of two corresponding lexical families, namely the lexical family of *gold* in English and that of *dahab* ('gold') in Arabic. We understand "lexical family" to be a collection of semantically related lexical units based on the same morpheme. These lexical units

- may have distinct morphological shapes (i.e. in traditional terms we would say that they appear in a "derivational" relation, as in *gold* and *golden*),

- may be members of distinct lexical categories according to traditional linguistic and lexicographic analyses (i.e. be assigned to multiple parts of speech, as in *gold_N* and *gold_{ADJ}}*), or
- may be related as "word senses" within the same category (as the following senses of *gold*: 'metal', 'coins made of this metal', 'jewelry made of this metal', 'medal made of this metal', 'the color of this metal', etc.).

Here, a lexical family comprises both (a) usualized lexical units still found in a transparent relation to one another and (b) productively derived novel lexical units (i.e. morphological derivations or sense extensions). The correspondence between the English and Arabic lexical families is based on the translation relationship between the primary lexical units in the two languages, i.e. between *gold* and *dahab* used for naming a certain metal.

The application of the microstructural method enables us to pursue the entire usage spectrum of lexical elements as found in corpora and judged by native speakers with respect to different contexts and thus to investigate, in detail, the interaction between language-specific lexical knowledge and grammatical system. This is a clear advantage vis-à-vis macrostructural approaches in which only selected uses are usually taken into consideration. On the other hand, the regularities captured by the microstructural method are by definition confined to selected lexical areas. It is therefore necessary to broaden the scope of the investigation gradually by successively including semantically related lexical areas and comparing their regularities with the regularities found in the initial investigation. In the present study, the area selected is that of MATERIAL-denoting lexical elements which are considered as prototypical MASS nouns in languages such as English. Thus, the investigation of corresponding lexical families presented in this work is conceived of as a pilot study, developing a model of analysis that we base on a careful examination of this area and that we intend to carry through to other lexical areas, including further subsections of prototypical MASS nouns and, of course, prototypical COUNT nouns as well. The decision to investigate the particular lexical families in question (i.e. *gold/dahab*) was motivated by the fact that the English member *gold* is one of the most popular examples in the literature on MASS nouns. In addition to this, *gold* and its translation partners display a very similar polysemy structure in a great number of related and even non-related languages. Furthermore, they show - as do some other metal names - a strong tendency toward N/ADJ-overlapping in most languages of the world. This makes them particularly suitable for fine-grained cross-linguistic comparison.

2 Dimensions in the Analysis of the Nominal Domain

2.1 Arguments for a Multidimensional Approach

In Table 1 below we list a collection of linguistic terms widely used in the semantic/pragmatic or syntactic characterization of nominal phrases and nouns.

Table 1 Linguistic terms characterizing NPs

A	B
referential use	non-referential use
specific use	non-specific use
	generic use
narrow scope use	wide scope use
referential definite description	attributive definite description
(syntactic) subject	(syntactic) attribute/(syntactic) predicate
topic	
(semantic) object	quality/property
count noun or count phrase/term	mass noun or mass phrase/term
individuation	grinding
boundedness	unboundedness
shape	substance
token	type
instance	
...	...

It is well known that there is an affinity among the terms listed in column A on the one hand and among the terms listed in column B on the other. This affinity concerns both the terminological usage and the empirical co-occurrence of the phenomena described by different terms in those cases in which the terms in question are understood as actually referring to distinct phenomena and are not simply used as synonyms. In other words, several of the terms in Table 1 are used near-synonymously in a great number of approaches or are applied to describe overlapping phenomenological areas in a mutually exclusive way in different approaches (e.g. "non-referential" and "non-specific" use, "non-referential" and "generic" use, "specific" and "narrow scope" use, "non-specific"/"generic" use and "wide scope" use, etc.). In addition to this, it has been repeatedly pointed out in the literature that there is a strong tendency in the languages of the world to interconnect modality, speech act functions, and the individuation and identification of participants: the semantic values of these features occur in prototypical clusters, which manifest themselves in morphological/syntactic coding and restrictions (employment of articles, word order, case functions, etc.; cf. Hopper/Thompson (1984); Croft (1991)).

Moreover, the semantic affinity of certain notions has repeatedly given rise to general theoretical discussion with respect to a putative notional unity or identity on a more abstract

level: do two notions usually treated as separate phenomena manifest two different aspects of a single higher-level phenomenon? A paradigm case of this kind of consideration is the question of whether Donnellan's (1966) attributive/referential distinction is related or even identical to the specific/non-specific distinction.² However, a caveat is in order here: given the long-lasting preference in the theoretical literature to illustrate general considerations by citing examples from English, it is often difficult to decide whether theoretical considerations about the identity of notions is confined to certain English constructions or whether they are meant to be cross-linguistically valid. A good example of this is the question of whether "generic" and "non-specific" are identical phenomena, which is predominantly discussed on the basis of English constructions (e.g., bare plural NPs, NPs with an indefinite article) (cf. Krifka et al. 1995).

The most important problem with these terms, however, is the general lack of agreement on their status in detail, even with respect to their use in the description of English. The following fundamental questions remain largely open:

- which of these terms should be considered as "primitives" and which as complex metaconcepts?
- what is the logical relation between the concepts behind these terms apart from the empirical observation that there are clusters of values? Is it cross-classification, inclusion or overlapping?

Due to the increasing convergencies between different theoretical approaches in linguistics (i.e. functional and generative approaches, cognitive and formal semantics, etc.), it becomes increasingly difficult to exclusively associate the synonymous uses of these terms with distinct theoretical models or to trace them back to distinct linguistic traditions.

The negative consequences of this situation become most apparent in comparative cross-linguistic studies, especially when less well-investigated languages are brought into the discussion. Most members of the scientific community will be unable to verify the empirical validity of linguistic statements about these languages - in contrast to those formulated for English, which are always backed up by ample evidence. The extent to which this leads to problems of interpretation may be illustrated with two randomly selected quotations. The first is from Colette Craig and concerns the interpretation of nouns used without classifiers in Jacaltec. The second, from MacWhinney (1989), refers to the interpretation of bare singular NPs in Hungarian. Incidentally, this is not to say that we consider Hungarian a poorly investigated language, but it is certainly not readily accessible to the linguistic community and hence hardly more "well known" than Mayan.

² This question has been discussed in detail as early as in Partee (1972: 421), Rivero (1975: 39, with respect to Spanish), Lyons (1977: 192) and Palacas (1977: 202). Keizer (1992: 178) summarizes: "[M]any linguists ... regard Donnellan's referential/attributive distinction as roughly similar to the traditional specific/non-specific distinction; the only difference apparently being that the former is restricted to definites whereas the latter is restricted to indefinites."

The first is a sequence out of a cooking recipe for snails (classifier *no7* 'animal') in which water is first introduced as a **non-referential mass** noun (no classifier) but appears later as an identifiable count noun (with the classifier *ha7*). ... The next example of how classifiers mark objects as definite and specific shows the contrast between an initial **generic non-referential mention** of pigs in a sentence in a descriptive mood. [Emphasis added]

Craig (1986: 270)

"If the object is a common noun with no article, use the indefinite conjugation. In Hungarian, such nouns tend to take on a meaning of **mass or generic quality**. They are clearly not definite." [Emphasis added]

MacWhinney (1989: 232)

Both authors use the descriptors "mass" and "generic" in an interchangeable way. For Craig, they are concomitant attributes of what she calls "non-referential" use (as opposed to specific use). Similarly, the expression "mass or generic quality" in MacWhinney's quotation is not to be interpreted as a disjunctive characterization of the bare singular construction (i.e. "either MASS terms or generic terms") but as an impressionistic description of the core semantics of this construction. At this point, a serious problem for cross-linguistic comparison is generated. According to the semantics of "generics" and "mass terms", as linguists commonly understand them when abstracting from particular constructions of particular languages (e.g., from bare singulars or bare plurals in English), the two terms are by no means synonymous. Both kind-referring generics and generics in habitual sentences are neutral with respect to the distinction between MASS and COUNT nouns, i.e. COUNT nouns can likewise be constitutive for generic phrases. And, of course, MASS nouns may occur in non-generic environments.

The following methodological point must be emphasized in this respect. It is certainly legitimate to argue that a particular construction in a particular language incorporates the semantics normally associated with several different metaconcepts without actually being ambiguous if the arguments adduced in favor of such a description can be supported by syntactic and semantic evidence in the language in question (cf. Carlson's (1977) discussion of the question of whether or not English bare plurals are ambiguous between "generic" and "indefinite" uses). Furthermore, it is a well-known observation that English bare singulars and bare plurals display several shared properties. This also holds true for those cases in which the determinerless singular NP represents a classical MASS phrase in a non-generic sentence, while the determinerless plural NP is to be interpreted as a classical generic. This "striking similarity ... between bare plurals and mass nouns that have no determiner associated with them" (Carlson 1977: 455) is, in fact, a peculiar typological trait of English which we will come back to later on in the discussion. It is, however, one thing to develop hypotheses about the common semantic features of MASS phrases and generic phrases in English based on the observation of their formal similarity in this language and another thing to use the term "mass" and "generic" interchangeably to describe the semantics of constructions in other languages, probably guided by the tacit assumption that the form-meaning correlations observed in English could be universal. This kind of lumping together of linguistic terms may give rise to definitely wrong expectations. In this respect, it should be noted that Hungarian marks all "classical" cases of generics - i.e. all cases which undisputedly count as generics in the literature - by the definite article (in the first place by the definite singular and somewhat

less so by the definite plural) rather than by the bare singular. Thus, the noun *arany* ('gold') requires the definite article when appearing as a generic object in (1) and is clearly ungrammatical without it, so the situation is precisely the opposite of what one could conclude from MacWhinney's description.

- (1) a. Szeretem az aranyat. (NP: definite SG, V: "definite conjugation")
 like:1SG:DEF DEF gold:ACC
 'I like gold'
- b. *Szeretek aranyat. (NP: bare SG, V: "indefinite conjugation")

Moreover, by presenting things in the way exemplified by the above quotations significant typological similarities and dissimilarities tend to be obscured. In Hungarian, the formal expression of generic quality is distinct from that of unbounded ("unquantified") substance. This is a typological characteristic of Hungarian differentiating it from the typical classifier languages which show a tendency toward expressing both generics and unbounded substances by means of the bare NP without a classifier (cf. for example Li/Thompson (1981: 129) for Mandarin Chinese, Senft (1996: 6) for Kilivila and generally).

In the spirit of the general trend towards fine-grained analyses, several important arguments have recently been adduced for the hypothesis that, with respect to their semantics, the generic/non-generic distinction and the MASS/COUNT distinction not even in English are located on single homogeneous dimensions. That is, if we do not simply look at individual English constructions but rather at the entire spectrum of those phenomena which have been referred to as "generic" (in opposition to "non-generic") and "mass" (in opposition to "count"), it turns out that these terms are cover terms for several more basic and mutually independent distinctions.

For the generic/non-generic distinction, this has been convincingly argued in Krifka et al. (1995), one of the most comprehensive studies on genericity in recent years. The authors observe that the concept of "genericity" has been used in the description of at least two quite distinct phenomena: (a) for describing NPs which refer to a "kind" rather than to "an 'ordinary' individual or object" (1995: 2) and (b) for describing predications which express "characterizing" generalizations (e.g., "habituals") rather than "statements about particular events, properties of particular objects" (1995: 3). Both phenomena (kind-referring NPs and characterizing predications) may occur combined in a single sentence, but they not necessarily do so. Krifka et al. also point out that a number of classical problems with generics can be explained by the fact that these two aspects of genericity are not clearly kept apart. These problems include generic statements which allow exceptions, generic sentences which are not "timeless" and "tenseless" (cf. Lyons 1977: 194), generic statements which even tolerate the use of the progressive in English, etc.

Two further points may be added in this context. The first is that for kind-referring NPs, the concept of genericity has been developed on the basis of a relatively restricted type of linguistic data. In these standard examples, the lexical head of the generic NP denotes a first-order entity whose referent, when referred to non-generically, is located in three-dimensional space and is "publicly observable". In addition, the lexical head typically denotes an

"established kind" (for example, a biological kind such as *tiger* or a kind of chemical substance such as *gold*) rather than any other possible class of entities, and the NP itself occurs in the subject position. In other words, certain configurations are underrepresented in the theoretical literature and generally not very well understood: for example, "abstract nouns" or nouns denoting subclasses of human beings, as well as generic NPs occurring as objects of prepositions. This certainly constitutes a further source of problems surfacing in the domain of genericity.

The second point in this respect is the fact that the semantics of formal means marking determination and quantification (i.e. articles, quantifiers, and morphological number) has been described in the linguistic tradition with preference to non-generic mentions.³ Even though the semantic and syntactic differences between alternative constructions within the realm of generic NPs (for example those between indefinite singular and bare plural generics or between indefinite singular and definite singular generics in English) constitutes a reasonably important subject of research and it is frequently pointed out that they are far from being intersubstitutable, the explicit assumption that determiners and quantifiers or their combination with number distinctions may exhibit distinct subsystems depending on generic and non-generic use is barely encountered in the literature. It is nevertheless clear that, first of all, the choice of the definite vs. the indefinite article or that of singular vs. plural may signalize a semantic difference (as it evidently does in English) and, second, that this difference is not identical with the semantic difference signaled by the same formal devices in the non-generic domain.⁴ For example, the difference in morphological number between *the tiger* and *the tigers* in generic use is clearly not the same as in non-generic use.

³ Immediately connected to this is, of course, the fact that it is generally controversial whether generic expressions are referring expressions (cf. Keizer 1992: 115; Lyons 1977: 193ff.). Even if it is assumed that generic expressions have the status of referring expressions, it is often held - so for instance by Givón (1984: 406) - that

"[T]he most common reference - and definite description - in human language indeed pertains to members of the **universe of tokens**. But reference and definite description may on occasion pertain also to members of the **universe of types**, within which each type behaves, referentially, like tokens do [sic!] within their universe of tokens". [Emphasis original]

This naturally gives rise to the subliminal assumption that definite articles, etc. in generic reference could be understood in terms of their non-generic reference.

⁴ Carlson immediately addresses the question of whether it is necessary to assume exclusively generic determiners and comes to the conclusion that it is not (1977: 429, fn. 13):

"I know of no languages that have an *exclusively* generic quantifier or article, though I don't know whether this is universally so. Smith (1964) notes that generic NPs of English are generated syntactically just like non-generic NP's, requiring no special rules at all. I suspect that all languages pattern likewise." [Emphasis original]

It has to be noted here that there are a number of languages having two definite articles or two paradigms of the definite article. One such language is Bavarian. The particularly interesting feature of the Bavarian article system lies in the fact that generics and anaphoric definites require different paradigmatic series of the definite article (cf. Scheutz 1988). That this interesting fact has been given attention at all in the literature is presumably due to the marked difference between two distinct morphological paradigms in the formal system of the articles, which makes the distinction fairly obvious. We suppose that one could find quite a number of similar cases if one were also to consider those differences between generics and non-generics which are reflected in the syntactic macro-paradigms of determiners and morphological number.

We will now turn to the MASS/COUNT distinction. The idea that the English MASS/COUNT distinction is not a semantically primitive distinction is found in Behrens (1995). She argues for the treatment of this distinction as a lexically determined grammatical distinction characterizing phrases and probably other sorts of instantiations of lexical nouns on the sentence level (i.e. modifiers in compounds) rather than lexical nouns themselves. The English MASS/COUNT distinction is a grammatical distinction in the sense that it is the grammatical paradigm structured according to configurations between determiners/quantifiers and number values which ultimately determines whether a certain phrase is to be classified as a MASS or as a COUNT phrase. It is, however, lexically determined as well for the following reasons: first, the semantic difference between MASS and COUNT phrases depends on the semantic class of their lexical heads to a considerable degree, at least to a much higher degree than is usually the case in purely grammatical variation (i.e. inflection). Consequently, we can distinguish between different subtypes of MASS/COUNT alternations (i.e. nouns systematically occurring in MASS and COUNT phrases) depending on the respective semantic class. Second, the MASS/COUNT alternation itself is lexically restricted, i.e. there are nouns for which it is an arbitrary fact that they do not participate in a MASS/COUNT alternation. Third, members of a MASS/COUNT alternation may be conventionalized and acquire lexically established senses.

Behrens shows that certain semantic distinctions, which the systems of other languages prove to be independent of each other, are collapsed in English into a generalized distinction due to the specific grammatical paradigm (i.e. the MASS/COUNT paradigm) characteristic of this language. In particular, she claims that the distinction between SHAPE and SUBSTANCE is not to be equated with a more general distinction between OBJECTS and QUALITIES. The first pertains to the perception and conceptualization of entities in physical space, reflecting our ability to conceive them (a) with a particular shape and (b) as a shapeless mass stripped of the properties of the individual shapes. The second concerns the difference between conceiving of an entity (a) as an individual member of its class and (b) as a bundle of intensional properties characterizing the class to which it belongs. This distinction is not restricted to first-order entities. English displays a strong association between the semantic values of SHAPE and OBJECT (both constructed grammatically as COUNT phrases) and the semantic values of SUBSTANCE and QUALITY (both constructed grammatically as MASS phrases), which is assessed by Behrens as a significant typological feature. In contrast to languages such as Hungarian, English does not allow free alternation between OBJECT and QUALITY throughout the entire lexicon. Rather, the construction of nouns with QUALITY value in spatio-temporally located sentences is highly restricted. It is allowed when the simultaneous interpretation of NPs with a SUBSTANCE value makes sense, as, for instance, in the semantic field of "foods". With members of a number of other semantic fields, such as those fields whose members denote ANIMATES or ARTIFACTS, focus on QUALITY is possible merely in generic contexts (cf. (2a)) or in certain syntactic positions (e.g. noun modifier; cf. (2b)) and certain more or less idiomaticized expressions (cf. (2c)) in non-generic contexts.

- (2) a. Ship is the best mode of transport. (cf. Allen 1980: 552)
 b. They crossed the ship canal (i.e. 'a canal navigable by ships').
 c. He abandoned ship.

In order to disentangle the different semantic aspects found to be relevant in the domain of the MASS/COUNT distinction as modeled on the English type, Behrens proposes five dimensions,

which we will adopt here with certain modifications (cf. section 2.3). In the following, we will briefly summarize the two essential arguments she adduces for the necessity of such a multidimensional analysis.

First, she points out that the classical problems with the MASS/COUNT distinction - generally, and hence also in English - are in part rooted in the linguistic tradition, much in the same way as the problems with genericity alluded to above. In contrast to what is commonly assumed, the difficulties arising when standard distinguishing criteria are applied do not frequently result from the fact that a large part of English nouns is subject to systematic alternation. Rather, the reason is that the standard criteria (presence vs. absence of an article, use of plural forms, direct modification by quantifiers, etc.) aim at capturing regularities in a restricted domain, viz. that of spatio-temporally located entities. Essentially, these are regularities in the correlation between the grammatical system of determination/quantification and the semantic values of SHAPE and SUBSTANCE. As is well known, English has strongly overgeneralized this system. First, the system has been expanded to encompass "abstract nouns" and second, the grammatical distinction has a parallel in the generic domain as well. This does not mean, however, that in these non-prototypical domains we find precisely the same correlations between grammatical values and semantic interpretations as in the prototypical model domain. Moreover, it has been commonly assumed that the standard criteria equally apply in all syntactic positions. This is clearly wrong. In particular, the use of determiners often varies depending on the syntactic position. In English, for example, significant differences between central grammatical roles and peripheral ones (PPs) can be observed. In other languages, such as Hungarian, determiner selection varies in dependence of the relative position of grammatical roles (preverbal vs. postverbal). To eliminate all of these deficiencies, so Behrens' argument runs, a fine-grained analysis is advisable even for English; this is necessary on heuristic grounds irrespective of how the ultimate language-specific representation turns out.

Behrens' second argument relates to cross-linguistic considerations. She stresses that an exclusively form-oriented approach, which employs the same set of diagnostic criteria for distinguishing between MASS and COUNT categories across different languages, is frequently doomed to failure for quite a simple reason: these criteria presuppose - both in formal and in functional respect - a specific type of determiner and quantifier system, which is simply not always present in a language. Many languages do not have articles at all and make use of other means to signalize the classical functions of articles. For example, in Polish and to a certain extent also in Russian word order indicates definiteness/indefiniteness: preverbal NP = definite, postverbal NP = indefinite. Other languages, in turn, do possess comparable categories or categorial distinctions such as those required by the standard criteria; for example, they may exhibit a formal opposition between the use of an indefinite article and the use of an NP without an article, they may distinguish a morphological plural from a morphological singular, etc. None the less they may employ these structures functionally in a way so different from English that it does not make sense to use them as classificatory criteria. In Hungarian, for instance, all nouns can occur with the indefinite article and in the

bare singular; likewise all nouns can indiscriminately appear in the singular and plural forms.⁵ Also, it does not seem to be meaningful to approach the matter from an onomasiological angle by looking for holistic semantic equivalents of the MASS/COUNT distinction of the English type in other languages: as already mentioned, the semantic contrasts incorporated in the English MASS/COUNT distinction may well be distributed in other languages across independent formal means. For this reason, the only reasonable methodological strategy in typologically oriented research seems to be to disentangle the different semantic dimensions which are usually regarded as relevant in the MASS/COUNT domain.

As a conceptual framework for the multidimensional approach proposed in the present work we have adopted and theoretically refined the system set out in Behrens (1995). The five different semantic dimensions introduced in that work were at first conceived of as a basis for the discussion of the complexity of the MASS/COUNT distinction. We proceed from the assumption that this system constitutes an adequate point of departure for multidimensional analyses in the nominal domain generally. It proved useful to make a number of terminological and conceptual alterations and to add a further dimension so that the system employed here will operate with six dimensions instead of the five distinguished in the original.

Before turning to the discussion of the details of our multidimensional system, we want to emphasize two points: first, the distinctions with which we operate (cf. Table 2 below) are not only based on theoretical considerations but also on empirical experience. Thus, we do not consider them to be an exhaustive list of representational differences in the nominal domain. We rather believe it to be very likely that more subtle distinctions will prove to be necessary in the course of further work on the topic. Second, it is certainly possible that a particular language shows an exact correspondence between values in distinct dimensions in that it applies the same formal means for the expression of oppositions located on several dimensions - even more strongly than this is the case in English. With respect to the description of this language alone, a distinct representation of the dimensions in question would, of course, be redundant. Nevertheless, from a cross-linguistic perspective, the very fact that these dimensions can be collapsed - in contrast to other languages - would manifest a significant typological property of this particular language.

⁵ It could be objected that in such a language, the MASS/COUNT distinction simply manifests itself "semantically" rather than "syntactically". Statements to this effect are not seldom encountered in the literature. But what does this mean? For one thing, partial aspects of the semantic spectrum of the English MASS/COUNT distinction may sometimes be realized syntactically in another language as well; even so the grammatical test criteria may not be applicable in a reasonable way. Second, even if we were able to make out the MASS/COUNT distinction in another language solely on the level of interpretation (e.g. by entailments, etc.), it would nevertheless be necessary to carry out a multidimensional analysis for this language, too, given the semantic complexity of the original model distinction.

2.2 Terminology and Basic Assumptions

The terminology used in labeling our semantic dimensions and their values rests on a number of basic theoretical assumptions. It seems useful to clarify these briefly before proceeding with the discussion.

We are committed to cognitive theories of meaning according to which the relevant semantic notion is "conceptualization" rather than relation to entities in the "real world". From this perspective, the search for meaning is a search for how speakers of a language conceptualize reality (and fiction as well) in terms of elements of their language at each possible level of representation (i.e. those of lexical items, sentences, utterances, etc.) rather than a search for how these elements themselves are directly linked with entities of the world outside the mental experience of human beings (cf. Langacker's notion of "conceptual world" (1987: 5, 114), Jackendoff's notion of "projected (/experienced) world" (1983: 28); for the difference between "representational" and "denotational" approaches cf. Saeed (1997: 268-269)).

The consequences for using and understanding the terms "reference", "denotation", "sense", etc. are the following:

- (a) We consider reference to be a speaker- and utterance-dependent notion. It is the speaker that refers, not the "referring expression" itself (cf. Lyons 1977: 177; Keizer 1992: 113). By using certain expressions in actual utterances, the speaker refers to entities of his mental world rather than to entities of the physical world, though his mental world and the physical world may, of course, be interconnected. Saying that "an expression refers" and applying the term "referring expression" is a convenient linguistic metonymy providing a shorthand expression for this state of affairs.
- (b) Consequently, we agree with Lyons (1977: 176, 208) in assuming that lexical items do not have "reference". However, in the spirit of the metonymical use just mentioned we can say that each of them has a certain referential potential. This means that they possess specific lexical properties, on the basis of which they can be used by the speaker for the purpose of reference in a potential number of expressions. This referential potential will also be called "denotation", so for instance when generally talking about the membership of nouns in certain semantic classes. Thus, we will speak of HUMAN-denoting nouns, ARTIFACT-denoting nouns, etc. In doing so, we will assume that denotation can be seen both from an extensional and an intensional perspective. In the case of actual reference we will, on principle, never use the term "denotation".
- (c) The fact that speakers, when deictically referring, may accompany linguistic expressions by directly pointing to extralinguistic objects does not affect our premise mentioned in (a), according to which linguistic expressions and entities of the world are not directly linked to each other but related through the filter of cognitive representation. The latter is determined by the way of how "referring expressions" are lexically and grammatically constructed. Accordingly, that which the literature based on Frege's tradition calls "sense" is regarded by us as an essential constitutive part of the

meaning of "referring expressions". In other words, unlike Lyons (1977: 208), we do not take the view that the term "sense" in the usage just mentioned should be applied in the first place to lexical elements and only secondarily to constituents of sentences and utterances. The difference between *the Morning Star* and *the Evening Star* as constituents of utterances is semantically relevant to the same extent as that between *(the) Morning Star* and *(the) Evening Star* as elements considered in isolation. And of course, the choice between alternative "referring expressions" which have differing senses each or evoke differing conceptualizations is given in the case of deictic reference as well.

- (d) Reference, or successful reference, is not only in no way dependent on existence in the real world (cf. Searle 1969: 84), but it is also not dependent on the identifiability of the referent with a specific entity whom the speaker knows and has in mind when uttering a sentence. Most modern non-naive reference theories distinguish between reference to entities of the real world and entities of fictional worlds (cf. Keizer 1992). In the latter, unicorns, pegasus and "other animals" are at home. According to the cognitive approach pursued here, the conceptual world of the speaker may be connected - beyond the real world - both to fictional worlds such as fairy tales, science fiction, etc., which are normally construed linguistically in an analogous way to real world, and to conditional worlds existing only under certain hypothetical conditions or in the future, which are often construed linguistically by means of special mood values (e.g., subjunctive, conditional sentences, etc.). Thus, when the speaker talks about entities in all these "worlds" - be it about his own mother, about a unicorn, about Smith's murderer without knowing who this person is and even without knowing whether or not a murder has been actually committed, or about the hypothetical person who potentially would buy his car - he can always perform a referential act.
- (e) The concept of reference as a speaker-dependent notion comprises two senses of this term, which are related but occasionally explicitly differentiated in the literature (Lyons 1977: 660): (a) reference understood as relation between linguistic expressions and entities in the world and (b) reference as relation between two linguistic expressions (e.g. between a pronoun and its antecedent noun in the case of "anaphoric reference"). In both cases the referent is present in the mental world of the speaker. In case (b), however, the speaker establishes an additional textual link in that he asserts the identity of the referent of two referential acts following each other in a text. It is well known, though, that anaphorical links are not only possible between autonomous discourse referents, but also between verbs and their substitutes (cf. Keizer 1992: 124). We will come back to this point below.
- (f) Unless specifically indicated, we will not use the term "sense" in the way it is used in the Fregean tradition, but for the designation of different (lexicalized or productively generated) interpretations of the same lexical forms or for the designation of corresponding sense differences of phrases in such cases where the lexical senses are retained on the phrasal level.
- (g) As emerges from (a) and (d), we do not attach any relevance to the notion of "truth" in the sense it was originally connected with reference. In particular, we reject the axiom

of existence presupposition for reference, according to which "whatever is referred to must exist" and its existence must be "publicly observable". The question of whether the notion of "truth", once it is relativized to "truth-under-an-interpretation" as in model-theoretical semantics, is still distinct from the notion of "conceptualized interpretations" found in cognitive approaches cannot be tackled here.⁶

Finally, we would like to add a few words about our view on the relationship between lexical meaning and use in context, particularly since these two aspects have been understood as mutually exclusive much too often - and without justification - in the linguistic tradition. As we see it, speakers become acquainted during their lifetime with a great number of different uses of the vocabulary elements of their language, without their lexical acquisition in the strict sense ever being completed. They come to recognize subtle semantic nuances dependent on linguistic and extralinguistic context; they become familiar with correlations between semantic differences and grammatical patterns; they come to know pragmatic implicatures as specific properties of their language. And they learn to abstract from the acquired usage potentialities. All this taken together constitutes "lexical knowledge", which is, simultaneously, usualized pragmatics and something which possesses its own "grammar" with subsystems of different degrees of abstractness. When studying phrasal occurrences, we do not do this because we equate meaning with use in the sense of a strong "meaning-is-use-theory" (cf. Lyons 1991: 19). We rather assume that a systematic investigation of the usage potential of lexical elements constitutes a useful method to gain insights about lexical knowledge. Accordingly, "uses" do not have any ontological priority vis-à-vis more abstract lexical meanings and vice versa. From a heuristic point of view, however, the former are the primary objects of investigation in lexical research. To elucidate this with a famous saying by Wittgenstein: "Let the uses of words teach you their meanings" is for us a heuristic imperative rather than an ontological credo.⁷

⁶ However, as far as the logical relations between "conceptualized interpretations" (negation, entailment, etc.) and their coherence are concerned, truth conditions may also be relevant for linguistic analyses in the approach advocated here.

⁷ The German original is: "Laß dich die Bedeutung der Worte von ihren Verwendungen lehren!" (Wittgenstein 1984: 563)

2.3 Dimensions of Analysis

We will now proceed to the explication of the six dimensions considered relevant in the nominal domain. The dimensions and their values are listed in Table 2 below.

Table 2 Dimensions in the analysis of the nominal domain

	DIMENSION	VALUES		
1	Propositional Function	TOPIC (OF PREDICATE)	ATTRIBUTE	PREDICATE
2	Discourse Function	DISCOURSE REFERENT		NON-DISCOURSE REFERENT
3	Individuality	OBJECT	QUALITY	
4	Spatio-Temporal Location	S-T CONCRETE	S-T ABSTRACT	
5	Taxonomy	SORT	NON-SORT	
6	Form	SHAPE	SUBSTANCE	

2.3.1 Reference and the Dimensions of Propositional Functions and Discourse Functions

An important feature of our approach is that we differentiate between two organizational levels or dimensions for which the term "reference" has equally been used in the tradition. The first concerns the basic organization of propositions communicated by utterances. The values defined on this dimension are what we call "Functions of Propositional Structure", henceforth abbreviated to "Propositional Functions". The second dimension concerns the question of whether or not an expression is used by the speaker to indicate a "discourse referent". We will refer to this dimension as that of "Discourse Functions".

Propositional Functions

The oldest and to this day most strongly influential philosophical tradition (from Aristotle via Frege through Strawson or Searle) is dominated by a view that emphasizes the bipartite structure of propositions. According to this doctrine, propositions can be divided into two basic parts. The first part, most frequently called "subject" ("subject-expression") or "referring expression", is associated with speech act functions such as "referring to/naming/indicating/designating/mentioning... something"; the second part, called "predicate" ("predication"/"predicate-expression"), is described in terms of speech act functions such as "ascribing a property to/characterizing/saying something about... something".⁸ In the linguistic tradition, on the other hand, and especially in cross-linguistically oriented literature, the elements of basic clause structure are frequently found to

⁸ Cf. Strawson (1969: 139) for a list of phrases which philosophers have used to express this functional distinction.

be characterized in terms of a functional tripartition. The three functions are called "reference", "attribution" or "modification", and "predication" (cf. Miller 1985: 224; Croft 1991: 67) and are considered universal. Even though the exact status of these functions is not always explicated,⁹ it is relatively certain that they stem from an adoption and extension of the Searlean concept of the propositional speech acts; this is clearly evident from terminological borrowings from Searle such as "reference" rather than "subject" for the first of these functions.

We follow the linguistic tradition in assuming that every language has its own grammatical devices in order to distinguish between three basic Propositional Functions and three corresponding basic elements of propositions: (a) selecting discourse entities whose autonomous existence has already been established in previous discourse or is just being established in the sentence in question as those ones about which something will be asserted, i.e. selecting the base of the PREDICATION (selecting the TOPIC OF PREDICATION → TOPIC); (b) making a direct statement about selected discourse entities by assigning them properties or identifying them in terms of other established discourse entities (PREDICATION → PREDICATE); (c) assigning modifying properties to discourse entities by announcing their concomitant attributes or by making them identifiable (ATTRIBUTION → ATTRIBUTE). Distinguishing between PREDICATION and ATTRIBUTION is probably not a necessary condition for the successful functioning of natural languages. It is, however, an empirical observation that all languages studied so far display formal devices of differentiating between "direct" (PREDICATIVE) and "indirect" (ATTRIBUTIVE) assignments of properties. Since this difference between NPS constructed as ATTRIBUTES and those constructed as PREDICATES plays a crucial role in interpreting their semantics - ATTRIBUTES generally sharing some properties both with PREDICATES and with TOPICS OF PREDICATES - we consider it appropriate to keep them apart as distinct Propositional Functions.

In contrast to Croft (1991), Miller (1985), and also to Behrens (1995), we deliberately avoid here the use of the term "reference" in the sense of a propositional speech act. Communicating utterances may involve several referring acts. Not all referents named by this act, however, need to be selected as those entities about which something is predicated. Both ATTRIBUTION and PREDICATION (in a broader sense) may involve reference to identifiable discourse entities, as is the case with definite possessor ("genitive") ATTRIBUTES (e.g. *John's book, the book of my girlfriend*) and in equative/identifying sentences (e.g. *The person I mentioned to you yesterday is John.*). What Searle understands by "reference" is the successful performance of definite reference in conjunction with the selection of the referring expression as the base of PREDICATION in a "categorical" proposition, which is usually the grammatical subject in a language such as English (cf. Sasse (1987) for the difference between categorical andthetic propositions). He does not deal with definite expressions constructed as ATTRIBUTES; incidentally, he does not deal with expressions for hypothetical

⁹ For example, Croft first uses the expression "syntactic function" but says later that he will call them "pragmatic functions". In the same passage (1991: 51) he also explicitly states that he considers them to be propositional speech acts in the sense of Searle (1969):

"Each syntactic function is a propositional speech act (Searle 1969) that organizes the information denoted by the lexical roots for communication and thereby conceptualizes it in a certain way..."

referents either (cf. 1969: 73). Moreover, he confines himself to a narrow interpretation of "predication" as a speech act which comprises only ascriptive/classifying PREDICATIONS to the exclusion of PREDICATIONS in equative/identifying sentences.

Since we consider the simple act of reference and the simple act of constituting the basic parts of a proposition as (partly) independent of each other, we will refer to the selected base of PREDICATION as the TOPIC OF PREDICATION^{10,11}. In addition, we will also admit referential PREDICATES in equative/identifying sentences. It must also be stressed that not every sentence contains a TOPIC OF PREDICATION. There is a type of sentence referred to in the literature as "thetic sentence", which is characterized by its monolithic construction without a TOPIC OF PREDICATION. The subjects of such constructions, if present, will be assigned in our analysis the function of an ATTRIBUTE, which modifies the entire situation. This is exemplified by the difference between the subject phrase (*Gold*) in (3a) and the anaphoric subject phrase (*The gold*) in (3b), which is coupled with a prosodic difference (prosodic peaks marked in boldface):

- (3) a. **Gold** was lying in the safe. (*gold*: ATTRIBUTE)
 b. **The gold** was lying in the safe. (*the gold*: TOPIC)

This leads us to an important point which has to be borne in mind throughout the following discussion. By hypothesizing that every language has its own grammatical devices to distinguish between the three values in the dimension of Propositional Functions, we do not want to predict that every language will have three distinct categories corresponding to these values, at least not as long as a language-specific "category" is narrowly defined as something which manifests itself through a certain distinctive behavior on a sole level of linguistic description, particularly in syntax only or in morphology only. On the contrary, we assume that the grammatical correlates of TOPIC, ATTRIBUTE, and PREDICATE will be distributed over all components of grammar, including prosody just as well as syntax or morphology, and that they will appear, in each language, as a specific pattern of interaction between the components involved. Precisely in this sense, syntactic categories in English - be they defined in terms of simple phrasal categories (NP, PP) or in terms of more complex syntactic behavior (subject, direct object, etc.) - are not to be expected to display an exact one-to-one correspondence to Propositional Functions. In sentences such as those illustrated in (3), it is the combination of prosodic and syntactic features which is considered relevant for the fact that their subjects bear the functions of TOPIC and ATTRIBUTE respectively. As a further

¹⁰ The reader will not find it difficult to equate our TOPIC OF PREDICATION with what is called "subject" in the Aristotelian tradition. The term "subject" is also used by Strawson (1969). We decided to avoid it here because of the risk of its being confused with the language-specific grammatical subject. The term "topic" also has a terminological background of its own, to be sure, but seems to be more suitable as a neutral designation of the "base of predication". The latter term ("base of predication" or "predication base") was used in Sasse (1987, 1991).

¹¹ There are certain languages in which the marking of DISCOURSE REFERENTS and the marking of the TOPICS OF THE PREDICATION are almost as strongly intertwined as suggested by Searle's notion of "reference". In Tagalog, for example, only one DISCOURSE REFERENT per sentence - with the exception of equative/identifying sentences - is marked explicitly as such, viz. the respective TOPIC. All other expressions are formally indifferent with respect to the distinction between definite reference and non-reference. But this seems to be the exception rather than the rule.

example, showing a different type of interaction, it would be possible to cite Hungarian: here, the grammatical relations of subject, direct object, etc. are traditionally defined on a morphological basis. Besides the morphological factors, however, word order plays an essential role in the constitution of a proposition's basic elements.

From a cross-linguistic perspective, then, a comparatively loose association can only be ascertained between the highest-ranking grammatical relation (e.g. the subject) and the TOPIC on the one hand, and between the grammatical realizations of peripheral participants (e.g. instrumental or locative) and ATTRIBUTE on the other. Furthermore, the second highest grammatical relations (e.g. the direct object) are typically characterized by a systematic ambivalence in their assignment to TOPIC or ATTRIBUTE. In an extremely large number of languages this ambivalence shows up morphosyntactically in the form of a phenomenon which has come to be known in the literature as "differential object marking" (cf. Bossong 1985). Finally, it should be mentioned that TOPICS - just as much as ATTRIBUTES - may be distributed across several constituents. This is the case in constructions in which the TOPIC OF PREDICATION is made up jointly by one constituent forming the frame of the PREDICATION and another constituent which is subject to agreement and hence constitutes the grammatical subject. This construction is characteristic of "topic-prominent languages" (cf. Li/Thompson 1976; Saeed 1984) but also sporadically occurs elsewhere and has been referred to as the "double subject construction" in traditional literature. The following Somali example (taken from Saeed (1984: 31)) neatly exemplifies this:

- (4) suuqa hilib geelku aad buu qaalisan yahay
 market.the meat camel.the very FOC.it expensive is
 'The market, camel's meat is very expensive.'

Direct objects as secondary TOPICS may be considered a different, though by no means less important, case of double TOPIC-marking. The nature of TOPICAL direct objects as occupying the second highest position in the ranking of "topicworthiness" has long been discussed (cf. Givón (1976) and the contributions in Plank (1984)). The phenomenon of objects as secondary TOPICS has attracted new attention recently in generative research due to the increasing interest in "double clitics" as they occur, for instance, in Romance and Balkan languages (cf., for instance, Uriagereka (1995) and the works cited therein): the semantic features of the object NPs described in these works as being coreferential with a cliticized object pronoun are usually such that we would assign them the value TOPIC here.

Discourse Functions

Instead of the more common distinction between referential and non-referential, we will concentrate on a distinction between "discourse referents" and "non-discourse referents"¹². This distinction is captured in the second dimension.

¹² The term "discourse referent" is borrowed from Lauri Karttunen. The concept rests on the same basic idea as ours and was propagated by him in several articles during the late 60s and early 70s (cf. Karttunen 1968, 1971, 1976) and elaborated on by others, e.g. Heim (1983).

What is a DISCOURSE REFERENT? This can be best explained in terms of the "discourse is an office"-metaphor. In the following we will make use of two figures from this complex metaphor which were developed independently of each other in the literature. The first is from Kuno (1972), who introduced the term "registry of discourse". The "registry of discourse" comprises all discourse entities which are "familiar" ("old" in Kuno's terminology) to the speech act participants and "[o]nce their entry in the registry is established they do not have to be reentered for each discourse" (1972: 271). Kuno mentions two essential reasons why a discourse entity may be contained in the registry of discourse: either it has been already mentioned in the previous discourse, it then is stored in the "temporary registry"; or it is permanently anchored in the registry of discourse due to speaker's and hearer's general world knowledge, it then is part of the "permanent registry". It is particularly unique (e.g. *the sun*) and generics that Kuno assumes to be contained in the permanent registry.¹³

The second metaphor is the "file-card" metaphor. It was extensively used in the 80s in approaches of different persuasions from Du Bois (1980) through Givón (1990), and most prominently by Heim (1983) in her File Change Semantics. According to this metaphor, a separate file exists for each autonomous referent in the discourse about which speech act participants communicate. Once a new referent is introduced, a new file is opened. This file is continuously updated in the course of communication when new pieces of information are added while continuing to speak about the same referent. The crucial idea inherent in this concept is that it is the identifiability of referents along the flow of linguistic communication and, above all, the coreferentiality of different mentions in the discourse that play the most important role in the linguistic expression of reference, rather than the conditions previously employed as requirements for definiteness such as identifiability of referents due to communication-external factors (for example: acquaintance of the speech act participants with the referent; uniqueness of candidates fitting a definite description; and so forth).

In terms of the "discourse is an office"-metaphor, then, DISCOURSE REFERENTS are those referents whose files are stored in the registry of discourse, either as newly established ones in the course of single communicative events or as pre-existing ones in the permanent registry. The most noticeable manifestation of DISCOURSE REFERENTS is their capability of permitting reference by means of definite anaphora. More precisely, if a language differentiates between two types of anaphoric reference, one of which can be called "definite" in the sense in which this term has been commonly used in the description of European languages, then it is this one that is employed in signaling the continuous identity of DISCOURSE REFERENTS. The concept of DISCOURSE REFERENTS also constitutes the interface between pragmatic approaches to reference, suggesting that reference should be considered a pragmatic property (cf. Du Bois 1980; Givón 1982; Hopper/Thompson 1984) and semantic (i.e. traditional) approaches, arguing that the speaker's attitude with respect to the salience of existing and potentially

¹³ The difference between the "permanent" registry and the remainder of the registry, which is reserved for textually and situationally established entities, (i.e. "the temporary registry") appears to correspond to a distinction drawn by Krifka (1984) between two types of definiteness: world definiteness ("Welt-Definitheit") and context definiteness ("Kontext-Definitheit"). The differentiation between the two paradigm series of the definite article in Bavarian mentioned in footnote 4 correlates fairly precisely with these two different types of discourse anchoring: one of the articles is used for entities that are "world-definite", i.e. established in the permanent registry (e.g. for generics and uniques), the other for textually and situationally established entities (cf. Scheutz 1988).

fitting referents should be banned from theories of reference: That which adherents of pragmatic approaches understand by referential mention is precisely reference to DISCOURSE REFERENTS in the sense explicated above, which essentially manifests itself as anaphora.¹⁴ And the possibility of reference by formal means classified as expressions of definite anaphora (pronouns, affixes) is, in turn, one of those features which are commonly used to characterize "prototypical referents" in semantic approaches (cf. Keizer 1992: 139).

It is important to note that the use of definite anaphora should be understood as an option, viz. the possibility to make continuous reference to an already established DISCOURSE REFERENT at a certain point in the communication, rather than as an obligation to do so. The most radical view of DISCOURSE REFERENCE requires the actual use of definite anaphora and classifies all single mentions as NON-DISCOURSE REFERENTS. Such a requirement would be too strong a condition and would yield counterintuitive results. At least in the languages we are familiar with, speakers are capable of opening a file immediately with a definite expression (e.g., *this cat* in a deictic context) and construct the definite expression as a TOPIC, without necessarily uttering further sentences about the newly introduced referent. Nor are speakers forced to give more than one - and hence anaphorically continued - statement about DISCOURSE REFERENTS in the permanent registry. It is in this sense of potentiality that we regard the possibility of continuation by means of definite anaphora as a necessary property of DISCOURSE REFERENTS. Conversely, definite anaphora is not a sufficient condition for ascertaining the status of the antecedent as DISCOURSE REFERENT. Before turning to a discussion of this problem, we will present a few examples illustrating the range of entities capable of fulfilling/satisfying the criterion of potential continuability by means of definite anaphora and thus receiving the status of DISCOURSE REFERENT.

First, anaphoric behavior clearly shows that there is no difference, in principle, between kinds and "ordinary" (spatio-temporally located) individuals with respect to their capability of receiving the status of DISCOURSE REFERENT. In generic texts kinds normally appear as DISCOURSE REFERENTS and are treated exactly like specific individuals in episodic texts (cf. the German examples (5a, b)). This equally applies to kind-referring generics combined with a "generic predicate" (as e.g. *be extinct*) (cf. (5a)) and to those generics which constitute the TOPIC of a "characterizing predicate" (cf. (5b)). Note, however, that not every non-specific mention in a generic text is a reference to a DISCOURSE REFERENT. Example (5c) is an excerpt from the same text about the kind "lynx" as example (5a). In (5c), though, *ein Luchs* ('a lynx') appears in a construction of comparison, i.e. it is constructed as an ATTRIBUTE rather than as a TOPIC. In such a case, continuing the text with statements about the kind is possible only by means of a nominal construction; in the example at hand this is a hyperonym of *Luchs* (*die Raubkatze* ('the cat of prey')). Mentions of kinds seem thus to be mentions of DISCOURSE REFERENTS only in case they are constructed as TOPICS (cf., however, (22) below). It is also worth mentioning that the impossibility to continue the text in (5c) with a definite anaphora is

¹⁴ In Du Bois' (1980: 208) words:

"A noun phrase is *referential* when it is used to speak about an object as an object, with continuous identity over time." [Emphasis original]

The connection between pragmatic reference and the potential of anaphoric resumption is particularly stressed in Givón's (1982) argumentation. He defines as non-referential precisely those mentions which are not anaphorically continued. We will come to this point directly.

not due to the use of the indefinite article. Indefinite generics (and generics of non-established kinds generally) are no less potential DISCOURSE REFERENTS than all the other generic NP types, at least in German (cf. (5d)), but also to a large extent in English (cf. (5e)). Example (5e) also illustrates the fact, already discussed in section 2.1, that number distinctions have a different status with generics than with non-generic mentions: the indefinite generic mention *a goldfish* is continued with the plural anaphoric pronoun *they* in the subsequent sentence, which would be impossible if *a goldfish* were a specific mention.

- (5) a. Seit 100 Jahren ist **der Luchs** [DEF:SG:MASC] bei uns ausgestorben - in Bayern wird **er** [PRO:3SG:MASC] jetzt wieder gesichtet. (TV Today 26.4.1998)
'**The lynx** has been extinct here for 100 years - **they** have been sighted again in Bavaria recently.'
- b. **Der Knorpelfisch** [DEF:SG:MASC] bevorzugt kühle Gewässer, z.B. vor Südafrika, Australien und Kalifornien. Hier findet **er** [PRO:3SG:MASC] **seine** [POSS:3SG:MASC] Lieblingsbeute: Seelöwen und Robben. (TV Today, 6.2.1998)
'**Cartilaginous fish** prefer cooler waters, e.g. around South Africa, Australia, and California. Here **they** find **their** favorite prey: sea lions and seals.'
- c. "Der hat ja Ohren wie **ein Luchs** [INDEF:SG:MASC]." Im Sprichwort ist **die Raubkatze** [DEF:SG:FEM] noch präsent, obwohl **sie** [PRO:3SG:FEM] in Deutschland schon vor 100 Jahren ausgerottet wurde. (TV Today, 26.4.1998)
'"He has ears like **a lynx**". **The cat of prey** is still found in this saying although **it** became extinct in Germany 100 years ago.'
- d. **Ein Luchs** [INDEF:SG:MASC] greift nie seine Artgenossen an. Nur wenn **er** [PRO:3SG:MASC] krank ist, verhält **er** [PRO:3SG:MASC] sich unberechenbar.
'**A lynx** will never attack his own species. **He** only acts unpredictably when **he** is sick.'
- e. Given good conditions **a goldfish** will live for 10-20 years. In occasional cases **they** may live for over 40 years.

Second, the denotational area of the lexical heads does not seem to pose any restrictions on the occurrence of generics as DISCOURSE REFERENTS. In (6a) the two generic DISCOURSE REFERENTS are ANIMATE, while in (6b) there is generic reference to an abstract concept in the permanent registry. Incidentally, the object NP is a good example of a secondary TOPIC.

- (6) a. Vom männlichen deutschen Diplomaten [DEF:SG:MASC] ist bekannt, daß **er** [PRO:3SG:MASC] die Frauen [DEF:PL:FEM] liebt, **sie** [PRO:3PL:FEM] aber dennoch geringschätzt. (Süddeutsche Zeitung, 31.7.1996)
'What is known about the German male diplomat is that **he** loves women but nevertheless despises **them**.'
- b. Der Ladendiebstahl [DEF:SG:MASC] zählt nach wie vor zu den beliebtesten und umsatzträchtigsten Freizeitvergnügen im Lande. Juristisch wird **er** [PRO:3SG:MASC] so definiert, daß der Dieb... (Süddeutsche Zeitung, 30.7.1996)
'Shoplifting still counts as one of the most well-loved and profitable leisure activities in the country. It is legally defined in such a way that the thief...'

Third, mentions of hypothetical entities, i.e. mentions for which the hypothetical conditions are spelled out in the form of conditional sentences, etc. in the text, may likewise serve as a

point of departure for a coherent text with an anaphoric structure of its own. In other words, they may establish a file for a new DISCOURSE REFERENT. The examples in (7) demonstrate this. It is true that the first mention after the introduction in (7b) is not pronominal, but an NP in which the lexical head of the antecedent is repeated with a demonstrative. Pronominal reference would nevertheless also be possible in the first mention already.

- (7) a. If they have a **son**, **he** will inherit the money. (cf. Searle 1969: 73)
 b. Wenn ich **einem General** [INDEF:SG:MASC] geböte, nach der Art der Schmetterlinge von einer Blume zur andern zu fliegen oder eine Tragödie zu schreiben oder sich in einen Seevogel zu verwandeln, und wenn **dieser General** [DEM:SG:MASC] den erhaltenen Befehl nicht ausführte, wer wäre im Unrecht, **er** [PRO:3SG:MASC] oder ich? (LP, X-55)
 ' If I ordered a general to fly from one flower to another like a butterfly, or to write a tragic drama, or to change himself into a sea bird, and if **this general** did not carry out the order received, who would be wrong, **he** or I?'¹⁵

It is almost unnecessary to mention that NPs which can be characterized as attributively used definite expressions in Donnellan's (1966) terminology may name DISCOURSE REFERENTS as well. That is, one can talk about *Smith's murderer* without knowing who this person is and without being able to pick out the killer on the basis of his name (i.e. under the interpretation "fitting the description, whoever the described entity is"). In this sense, expressions such as *Smith's murderer* may open a new file in the "temporary registry". Detective stories enthusiasts are familiar with the fact that the amount of information contained in the files of yet unidentified murderers may vary considerably (cf. the examples in (8), all from Sherlock Holmes novels). It may range from uncertainty as to whether the expression *murderer* is an adequate description at all (cf. (8a)) or as to the gender of the respective person - which may have consequences in a language such as English for the choice of the form of the anaphoric pronoun (cf. (8b))¹⁶ - to extremely copious and precise surmises about the as yet unnamed person, especially when the " profiler's" name is Sherlock Holmes (cf. (8c)).

- (8) a. Then, of course, this blood belongs to a second individual -- presumably the murderer, **if murder has been committed**. (SH)
 b. The murderer has written it with **his** or **her** own blood. (SH)
 c. There has been murder done, and **the murderer** was a man. **He** was more than six feet high, was in the prime of life, had small feet for **his** height, wore coarse, square-toed boots and smoked a Trichinopoly cigar. **He** came here with **his** victim in a four-wheeled cab, which was drawn by a horse with three old shoes and one new one on **his** off fore-leg. In all probability **the murderer** had a florid face, and the finger-

¹⁵ The printed translation has: "If I ordered a general to fly from one flower to another like a butterfly, or to write a tragic drama, or to change himself into a sea bird, and if the general did not carry out the order that he had received, which one of us would be wrong?"

¹⁶ There may also be uncertainty with respect to the number of persons involved. In such cases, German employs the singular (*der Mörder*) as long as there is no explicit evidence for the murders having been committed by more than one person. The use of the singular NP in German in such cases is not associated with a strong presupposition that one and only one person committed the murder in question (differently from what is maintained for English by Wettstein (1983)), but only with a default-assumption about the number of persons that participated in the murder (probably only one, but more than one not excluded).

nails of **his** right hand were remarkably long. These are only a few indications, but they may assist you. (SH)

Incidentally, definite descriptions of the "attributive" kind (in Donnellan's sense) may even occur in the predicate position. This is the case in a specific type of equative/identifying sentence in which two attributively used definite expressions are both DISCOURSE REFERENTS, one being constructed as TOPIC and the other as PREDICATE. Such sentences serve to correct the erroneous assumption of the hearer that the two descriptions apply to different persons (cf. Declerck 1986). Compare the following examples (9a) and (9b):

- (9) a. I had already determined in my own mind that the man who had walked into the house with Drebber was none other than the man who had driven the cab. (SH)
 b. Der Tiefgaragenattentäter und der Mörder von Lemmy sind ein und dieselbe Person.
 → Der Tiefgaragenattentäter ist der Mörder von Lemmy (Tatort "Eine Million Mäuse")
 'The assassin in the underground car park and Lemmy's murderer are one and the same person. → The assassin in the underground park is Lemmy's murderer.'

Finally, non-specifically used indefinite expressions occurring in the scope of verbs of "propositional attitude" (e.g. *believe, hope, want, try*, etc.) - i.e. in Quine's (1953) "referentially opaque contexts" - also allow reference in subsequent text by means of definite anaphora. This has been repeatedly stated in the literature, compare, for instance, Langacker's (1991: 105) example in (10) below. We can say that the pronoun *she* in (10) marks a DISCOURSE REFERENT in a hypothetical world and appears as TOPIC of a PREDICATE which overtly signalizes the hypothetical status of the proposition by the choice of the modal *must*.¹⁷

- (10) Ollie hopes to marry a blonde - but **she** must be tall, rich, and beautiful.

In the familiar European languages there is a relatively restricted set of constructions which - in the case of first mentions - can generally not be interpreted as contexts introducing new DISCOURSE REFERENTS. These are the following positions: (a) the modifier position of a compound, (b) the position of the element to which something is compared in constructions of comparison, i.e. *x* in *like/as x*, (c) the position of predicate nominals, and (d) the position of nominal elements within the scope of negation. Grammatical realizations of nouns in these positions regularly fail the definite anaphora test (cf. (11), (12a)) and are traditionally regarded as "non-referential" uses. Anaphorical continuation of predicate nominals is possible, but only with "identity-of-sense" anaphorics (e.g., *so, one*, etc.; cf. (13b)), expressing, for instance, that the QUALITY ascribed as a PREDICATE to the preceding TOPIC also applies to further TOPICS, rather than marking the coreferentiality of DISCOURSE REFERENTS as

¹⁷ Following Fauconnier's theory of mental spaces, Langacker (1991: 104-105) interprets indefinites occurring in opaque contexts in the following way: they constitute a mental space distinct from their "parent" space, where the "parent" space is understood by him as the space which resides in the mind of the speaker and the subordinate space as the space which resides in the mind of the subject of the propositional attitude (i.e. *Ollie* in (10)). In the case of specific uses, these two mental spaces are connected sharing the same referential instances, while in the case of unspecific uses, the "designated instance" has "no status outside the special mental space created", i.e. outside the subordinate mental space.

OBJECTS (cf. the discussion of the third dimension (i.e. the dimension of Individuality) below). Even if a pronominal shift from PREDICATE to TOPIC is possible due to shared QUALITY, many languages do not use the same pronominal device for this purpose as employed for marking coreferentiality of generic DISCOURSE REFERENTS. In the German example in (12a), the gender-specific pronoun *sie* ('she') is therefore ungrammatical in contrast to what we have seen in example (5c) (*Raubkatze* → *sie*). Moreover, further mentions of the same lexical element in the same position do not lead to a construction signaling established DISCOURSE REFERENTS. Hence predicate nominals in cases like (13b) remain marked with an indefinite article (*a forester*), as noted by Du Bois (1980: 211).

(11) I met a truck driver yesterday. *It was muddy and rusty.

(12) Mary ist eine Försterin;
'Mary's a forester.'
a. *sie ist ein schöner Beruf.
'*she's a nice job.'
b. das ist ein schöner Beruf.
'that's a nice job.'

(13) Mary's a forester;
a. so is Sue.
b. she's been a forester for three years.

In the languages under discussion (English and German) the modifier position of compounds enjoys a special status among all the "non-referential" positions enumerated above. This attributive position is the only position whatsoever which is, in principle, never compatible with an interpretation of expressions as pointing to DISCOURSE REFERENTS.

In contrast to nominal compounds, verbal compounds consisting of a verbal head and a nominal modifier are relatively rare in these languages. Only in certain semantic fields and in certain more or less idiomaticized expressions are NPs constructed as ATTRIBUTES of verbs restricted to their use as NON-DISCOURSE REFERENTS (cf. (14a) vs. (14b)). A construction with the singular may in such cases evoke the effect of transnumerality, as shown in the German example (15a). Note that instrumental NPs expressing the modality of transport are constructed in German as definite singulars and are as such ambiguous between the interpretations DISCOURSE REFERENT (cf. (15b)) and NON-DISCOURSE REFERENT (cf. (15a)). However, it should be stressed at this point that, from a cross-linguistic perspective, transnumerality is not a necessary concomitant of NON-DISCOURSE REFERENTS. It is a language-specific feature and constitutes a typologically significant trait of the languages in which it occurs (cf. p. 29, 32ff. below).

(14) a. He played piano / the piano. ?It cost \$ 2000.
b. He bought a piano. It cost \$ 2000.

(15) a. Ich bin mit dem Zug gefahren. Dreimal mußte ich umsteigen.
'I went by train. I had to change three times.'

- b. Ich bin mit dem Zug gefahren. Er war schrecklich voll.
'I went by train. It was terribly full.'

Even though the presence of anaphorical devices signaling coreferentiality (rather than merely identity of sense) is an essential indication for DISCOURSE REFERENTS, we are confronted here with a significant methodological problem. This is posed by a phenomenon which has generally come to be known by the term "associative anaphora" (after Hawkins (1978: 124)): It is well known that definite reference does not necessarily presuppose the explicit use of an element introducing the referent in an indefinite construction upon its first occurrence, but can also be triggered or "evoked" by associative elements (cf. (16)) which may even be verbs (cf. (17)):

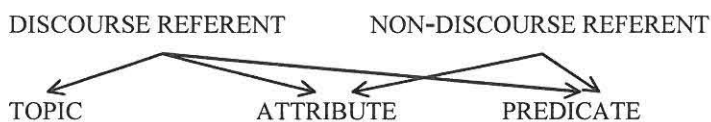
- (16) The man drove past our house in a **car**. **The exhaust fumes** were terrible. (cf. Hawkins 1978: 123)

- (17) I **sold** my car. I have taken **the money** to the bank.

If this is possible with lexically filled NPs, there are good reasons to believe that the current conclusion for definite anaphora is not cogent, viz. that its prior mention has to be interpreted as a specific reference to the DISCOURSE REFERENT just being introduced. It could be assumed that definite anaphora may also be made possible by an associative link to a prior mention. For this reason we will distinguish between mentions in which a DISCOURSE REFERENT is introduced and mentions in which a DISCOURSE REFERENT is presented as such. First mentions, in turn, may be, but not necessarily always are, DISCOURSE REFERENTS.

Before proceeding to the discussion of the third and fourth dimensions, we will summarize the relationship between the values of the first and second dimensions:

(18)



As emerges from the figure in (18), all possibilities of cross-classification except one are attested. The exception is captured by the redundancy rule in (19):

(19)

[TOPIC] → [DISCOURSE REFERENT]

2.3.2 Type/Token Distinction and the Dimensions of Spatio-Temporal Location and Individuality

A further important feature of our approach is that we differentiate between two distinct aspects which are normally incorporated in the traditional distinction between "types" and "tokens". The first aspect concerns the question of whether or not speakers communicate about situations which are -for themselves or for the participants involved in the situation¹⁸ - accessible to sensual experience being located in physical space and time. Thus, we may draw a fundamental distinction between uses of lexical elements (nouns, verbs, etc.) which correspond to spatio-temporally anchored entities in the mental world of the speaker, i.e. to perceivable objects, events, etc., and uses of lexical elements in which these are not connected to entities observable by human senses but require an abstraction of the spatio-temporal manifestation of those entities they regularly name. We assign this distinction to the dimension of "Spatio-Temporal Location" and refer to the first use as the S-T CONCRETE use, to the second as the S-T ABSTRACT use. The second aspect of the common "type"/"token" distinction concerns the following semiotic regularity of natural languages: in using a lexical unit in the appropriate grammatical form in an utterance, speakers may aim at two different goals. On the one hand, they may use forms or constructions of a lexical unit in order to make a semantic contribution to the sentence in terms of exactly those intensional properties which (categorially or prototypically) constitute the semantic pole of that lexical unit, without making any commitment to the individuality of the bearers of the properties in question. On the other hand, they may use forms or constructions of a lexical unit in focusing on the fact that the bearers of the relevant intensional properties can be conceived of as distinguishable, and hence countable, individuals or objects. The dimension which captures this distinction is called by us the dimension of "Individuality", where we will refer to the first use as the QUALITY use, to the second as the OBJECT use.

There is a third interpretation of the "type"/"token" distinction, which is occasionally found intermingled with the other two in the literature. This is the -etic/-emic distinction by which "nouns" as types are distinguished from "nominals" or "noun/nominal phrases" as tokens. This aspect will not constitute part of our dimensions. The -etic/-emic interpretation of types and tokens is, admittedly, a possible tool to differentiate between elements of the lexicon and their realizations in sentences. We adopt the view, though, that the distinction between the abstract elements of the lexicon and their realization in actual utterances has no bearing on questions such as that of spatial and temporal location. We also think that this distinction is entirely independent of the presence or absence of phrase-marking elements (such as determiners, etc.) in the "etic" realization (i.e. whether or not the citation form of the "emic" element coincides with its "etic" realization). As already mentioned above (cf. section 2.2), it is our intention throughout the entire approach to grasp, by means of the notional distinctions introduced here, differences in the realizations (i.e. "tokens" in this third sense) in order to draw conclusions from these onto the abstract lexical elements (i.e. "types" in this third sense).

¹⁸ The participant involved in the situation may, of course, be identical with the speaker himself, as, for example, in the narration of an episodic event in the past.

In this context we will consider the approach of Langacker (1991) since this work is one of the most detailed discussions of the type/token distinction (in his terminology "type"/"instance" distinction). Langacker mentions that his distinction is "reminiscent of that in logic between **intension** and **extension**" (1991: 55, emphasis original) but that it differs from that drawn in logic in a number of essential points. Above all, he says that both "type" and "instance" specifications in cognitive grammar are to be understood as conceptual entities, which as such are independent of questions of reference. Therefore, his model would definitely allow an analysis of "non-specific or non-referential" (1991: 56) uses as "instances" even in an opaque context (such as *a job* in *He desperately needed a job, but no job was available.*). Langacker illustrates the difference between "types" and "instances" with the conceptual distinction which holds between the sequence *cat* (which would evoke a "type" concept) on the one hand and the sequences *a cat* or *the cat* (which would evoke an "instance" concept) on the other (cf. *ibid.*). According to Langacker, the essential difference in this case would not reside in the determination ("grounding" in his terminology), but in the "domain of instantiation", which is defined by him as the quintessence of the distinction between "types" and "instances". In this context, he understands "domain of instantiation" to be that domain in which an entity is thought of as residing or having its primary manifestation. Thus, for instance, time is defined as the default domain of instantiation for events, and space as the default domain for "material substance". Accordingly, "instances" are given the definition that they "are thought of as having a particular location in the domain of instantiation", while the opposite is said to be true of "types".

Up to this point Langacker's distinction between "instances" and "types" seems to correspond by and large to our distinction between S-T CONCRETE and S-T ABSTRACT uses. However, this overall similarity is deceptive in several respects. The most fundamental difference between our approach and Langacker's resides in the fact that we believe it to be impossible to make definite assignments of values such as S-T CONCRETE/S-T ABSTRACT or OBJECT/QUALITY to isolated sequences such as *cat* or *a cat*. Such assignments are not possible prior to the interpretation of utterances, so that *cat* and *a cat* are potentially ambiguous between different values on our dimensions. On the other hand, the sequence *a job* in the opaque context cited above is given by us the value of S-T ABSTRACT - regardless of its containing an indefinite article (note that it also receives the value of OBJECT, see below). Further differences between Langacker's "type"/"instance" distinction and our S-T ABSTRACT/S-T CONCRETE distinction, which on the whole can likewise be traced back to a difference in our conceptions of compositionality, become evident in the treatment of nominal elements (a) in the predicate position and (b) as modifying (first) members in NPs, and in the treatment of generic NPs.

Langacker analyzes nominal constructions with an indefinite article in ascriptive PREDICATIONS as "instances" (cf. (20a)) and those without a determiner (such as occurring in French; cf. (20b)) as "types". He remarks that "the predicative nominative" in the French sentence "is a simple noun rather than a full nominal (in particular, there is no article or any other grounding predication)" and that he "therefore" posits a structure in which "the profiled relationship is a correspondence between the type specification provided by the predicate

noun and the instance described by the subject nominal" (1991: 69)¹⁹. Since Langacker automatically analyzes all NPs with an indefinite article as "instances", he also takes definite generics to be "types" (e.g. the subject NP in (20c)), and indefinite generics to be "instances" (cf. the subject NP in (20d)),²⁰ this differentiation of the subject NPs in (20c, d) bringing in its wake a further subdifferentiation of the predicative construction with an indefinite article. Thus, *a mammal* in (20c) (that is, in the environment of a "type" subject) is interpreted as an "instance", whose domain of instantiation does not, however, lie in the default domain of instantiation (physical space), but in that which he calls the "type space" - unlike predicates of specific instances and also unlike the predicate in (20d), which appears next to a generic "instance" subject. In other words, the generic sentence (cf. (20d)) is interpreted as an assignment of one "instance" localizable in physical space to another "instance" likewise localizable in physical space, with the restriction that the two instances cannot be identified.²¹

- (20) a. Alice is a thief. (p. 67)
 b. Alain est professeur. 'Alan is (a) teacher.' (p. 69)
 c. The okapi is a mammal. (p. 69)
 d. A wombat is a mammal. (p. 69)

Finally, Langacker remarks that a noun "incorporated as the first element of a compound (*cat lover*)" as well as a noun "that occurs alone (e.g. *cat*)" is not semantically identifiable with a singular noun that functions as a nominal head (1991: 75):

The former represents the conception of a type per se, and since it lacks the notion of instantiation, the question of quantity does not arise (hence the number of cats subjected to the affection of a cat lover is completely indeterminate - certainly more than one can be involved). By contrast, a singular head noun comprises a type conception construed as being anchored at a particular location in the domain of instantiation and specifically limits the profile to this single instance.

In our view it is not possible to assume a concrete localization in space and time for any one of the cases mentioned - be it the PREDICATES in (20a-d), the subjects in (20c, d), or *cat* in *cat lover*. All of them will therefore be ranked by us as S-T ABSTRACT. Moreover, we do not share Langacker's stance that *professeur* in the predicate position in French is a "noun" in contrast

¹⁹ We cannot help interpreting this as a contradiction to his claim that the "type"/"instance" distinction is totally independent of "grounding".

²⁰ This is not to say that there is no difference between singular subjects of generic propositions constructed with the definite article and those constructed with the indefinite article. It has long been observed (cf. Lyons 1977: 196) that the latter - in contrast to the former - can only receive a "distributive" but not a "collective" interpretation. Or, in Krifka et al.'s words (1995: 10), singular NPs with an indefinite article are incompatible with generic predicates such as *extinct*, which require a collective subject. Krifka et al. therefore propose to consider such NPs as "non-specific" to mark them off from definite and genuine generic NPs. Whatever name one wishes to give to this difference, it is clear that it has nothing to do with spatio-temporal localization and we will therefore disregard it in the following discussion. Further work on the subject may prove it to be necessary to grasp this distinction in an additional dimension.

²¹ For Jackendoff, "predicates in generic categorizations" (i.e. ascriptive PREDICATES in generic sentences) are always "types" (1983: 79, 95ff.).

to English *a teacher* which is said to be a "nominal".²² At any rate, *professeur* in the predicate position is no more to be equated with the corresponding lexical noun (whose realization it is) than, say, *gold* in the English sentences in (21). The same holds for *cat* in *cat lover*.

- (21) a. **Gold** is also extremely ductile. (*gold*: {S-T ABSTRACT, QUALITY})
 b. This watch is **gold**. (*gold*: {S-T ABSTRACT, QUALITY})

In regard to first members of compounds Langacker brings transnumerality into play, which he obviously regards as a necessary concomitant of "types". In our approach, transnumerality appears as an essential diagnostic feature of the distinction between OBJECTS and QUALITIES on the dimension of Individuality. As demonstrated above, this criterion seems to be also met - particularly in English - by indefinite generics; otherwise these could not be expected to be continued with a plural pronoun (cf. (5e)). And it is doubtlessly a characteristic feature of generic texts in many languages that singular and plural mentions pointing to the same DISCOURSE REFERENT alternate.

As emerges from what has been said so far, we will specify classical generic NPs, i.e. NPs which form subjects of generic statements (such as (21a) but also (20c, d)), as expressions with the following feature configuration: {TOPIC, DISCOURSE REFERENT, S-T ABSTRACT, QUALITY}. It was mentioned above (cf. (2.3.1)) that kinds are stored in the "permanent registry" of discourse and do not therefore have to be particularly introduced to be treated as DISCOURSE REFERENTS. It was also said that this is generally possible only when they are constructed as TOPICS (cf. p. 20). The crucial difference between the occurrences of *gold* in the two sentences in (21) consists in that *gold* appears as a DISCOURSE REFERENT only in its use as a TOPIC (in the (a) sentence) but not in its use as a PREDICATE. Otherwise the two occurrences equally attest the values {S-T ABSTRACT, QUALITY}.

Nevertheless, cases can be found where *gold* as a DISCOURSE REFERENT constitutes the PREDICATE of an equative/identifying PREDICATION, as, for instance, in example (22a) from the BNC. This is not visible in English since this language almost always uses the bare singular for generic reference to SUBSTANCES. This can be contrasted with Hungarian, where mentions of kinds as DISCOURSE REFERENTS require a definite article: here, the difference is

²² In the spirit of a universal principle of iconicity it is possible to speculate about the reason why there is a worldwide tendency to realize spatio-temporally abstract concepts in a form which coincides with the stem. It has to be stressed, however, that this form of realization is not necessary on theoretical grounds given that stems and their realizations are distinct linguistic entities. One can easily imagine a language in which the spatio-temporally abstract concepts receive a distinct overt marking of their own.

In languages differentiating between bare SG and INDEF SG one of the two constructions is usually conventionalized in the ascriptive PREDICATE context for nouns denoting professions. If both constructions coexist side by side, this can often be traced back to dialectal merger. This seems to be the case in German, where speakers are unable to give clear judgments about the semantic difference between the two constructions in the standard language. But even if a language has a clear correlation in this respect between semantic interpretation and article use, we consider it improbable that this is correctly explained in terms of the predicate nominals having a particular location in physical space in one construction but not in the other. Much more difficult is the decision on the question of whether such a hypothetical language would have a QUALITY-OBJECT alternation with nouns denoting professions in the predicate position. We tend to believe that ascriptive PREDICATES always have the value of QUALITY, but leave this point open for future research.

clearly seen, as a comparison of the sentences in (22b) and (22c) shows (cf. also the discussion of example (1) in 2.1).

- (22) a. Our other hobby is gold. (BNC)
 b. **Az arany** a másik hobbink.
 DEF gold DEF other hobby:POSS:1PL
 'Our other hobby is gold.'
 c. **Arany** ez a por.
 gold DEM dust
 'This dust is gold.'²³

We are now ready to formulate a second redundancy rule, which seems to be universally valid:

(23)

[NON-DISCOURSE REFERENT, PREDICATE] → [S-T ABSTRACT]

We will now take a look at a number of further candidates for the value of S-T ABSTRACT on the dimension of Spatio-Temporal Location.

It is trivial that the assignment of the values of S-T ABSTRACT and S-T CONCRETE to a nominal expression correlates with the question of whether or not an "episodic" PREDICATION is made in the sentence in which it occurs. Only in an episodic context with values of "factual" modality can it be expected that NPs in all positions where they are used as a TOPIC or an ATTRIBUTE may correspond to spatio-temporally anchored entities. Hypothetical DISCOURSE REFERENTS such as discussed in (7) are S-T ABSTRACT just as NON-DISCOURSE REFERENTS in the scope of negation. NPs which are "attributively used definite descriptions" in Donnellan's sense and constitute DISCOURSE REFERENTS are normally S-T CONCRETE though they may take the QUALITY value on the dimension of Individuality (i.e. may be used transnumerally, at least in some languages; cf. footnote 16).

"Referentially opaque contexts" (i.e. contexts of verbs of "propositional attitude") are commonly said to admit both a "specific" and a "non-specific" interpretation. Even though "non-specific" mentions - in the same way as "specific" mentions - may give rise to the

²³ It is worth mentioning in this context that Krifka (1991: 403) exemplifies three different approaches to the logical analysis of "bare mass terms" (the "dual approach", the "general term approach", and the "singular term approach") by reference to the example of *gold*. The "dual approach" analyzes bare MASS terms in front of the copula as "individual terms referring to a kind" and those after the copula as "predicates". The other two attempt to trace both occurrences back to a single interpretation (the "general term approach" to predicate and the "singular term approach" to individual terms). Of these approaches, certain variants of the dual approach such as advocated by Alice ter Meulen are best compatible with ours. She analyzes *gold* in a sentence like *This dust is gold* as a predicate and in a sentence like *Gold is valuable* as a name of the intension of this predicate. In our terms, DISCOURSE REFERENTS stored in the permanent registry may, in fact, be conceived of as names for intensional properties (i.e. QUALITIES).

introduction of a new DISCOURSE REFERENT (cf. (10) above)), further references to such a hypothetical DISCOURSE REFERENT are confined to non-factual mood values in the sentence. Hence, both the first "non-specific" mentions and the subsequent ones are always S-T ABSTRACT in an opaque context. By contrast, "specific" mentions may be linked anaphorically to mentions in which they appear as DISCOURSE REFERENTS in an episodic context with a factual mood value and therefore receive a S-T CONCRETE interpretation.

Habitual contexts (particular those based on an iterative interpretation of lexically dynamic predicates) have an effect similar to that of opaque contexts on the interpretation of NPs constructed as ATTRIBUTES (rather than TOPICS) and not marking established DISCOURSE REFERENTS. It has been repeatedly pointed out that indefinite direct objects in sentences like (24a) are ambiguous between a "specific" and a "non-specific" interpretation (or, in a different terminology, a "narrow scope" and a "wide scope" interpretation) (cf. Lenci 1995). The abstraction from single perceptible events, which is coupled with iteration, causes the effect that, given the circumstances mentioned above, even (formally) definite NPs such as *his bicycle* in (24a) may receive a "non-specific" interpretation (i.e. it is not necessarily the same bicycle that John used to repair). For specific DISCOURSE REFERENTS (such as *John*), the fact that they are not located in physical space and time in the context of a habitual characterization (and hence not accessible to sensual experience) would not seem to play a role. Just like "specific" mentions in opaque contexts, they may easily be linked anaphorically to S-T CONCRETE uses (cf. (24c) as a possible continuation of (24b)).

- (24) a. John often repairs a bicycle.
 b. John usually repaired his bicycle in the garden.
 c. He told me that just five minutes ago.

There can be no doubt that the semantic interpretations of S-T ABSTRACT and QUALITY are affine to each other, just like the interpretations of QUALITY and NON-DISCOURSE REFERENTS. In concluding this section, we will therefore adduce arguments against the collapsing of the dimensions of Spatio-Temporal Localization and Individuality on the one hand and against a collapsing of the dimensions of Individuality and Discourse Function on the other. We will try to substantiate these arguments using data from Modern Greek and Hungarian.

Barbara Partee (1972), in discussing the affinity of the relation between the two interpretations of a definite description (i.e. "referential" and "attributive" according to Donnellan) to the relation between the two interpretations of an indefinite NP in an opaque context (i.e. "specific" and "non-specific"), has pointed to a number of important facts. First, the difference between the two interpretations of a definite description has nothing to do with existential presupposition since definite descriptions normally presuppose the existence of an individual in both interpretations. Second, the difference in interpretation generally observed with indefinite NPs in opaque contexts is by no means restricted to such contexts. Rather, opaque contexts are those contexts which make this systematic difference in the interpretation of indefinite NPs visible. According to her view, this difference is essentially the same as the systematic difference in the interpretation of definite descriptions. To make this clear, Partee adduces the sentence in (25), in which the phrase *a doctor* is said to be "non-referential, or attributive" since "the rest of the sentence is not simply about the object qua object, however; the particular description used is essential to the meaning of the sentence" (1972: 419).

(25) Since I heard that from **a doctor**, I'm inclined to take it seriously.

The remarkable fact about this example is that the indefinite NP with this interpretation occurs in a sentence describing a (probably) single event in the past. This means we cannot reach a meaningful interpretation of the sentence unless we assume the existence of a doctor. With respect to the dimension of Spatio-Temporal Location this NP is doubtlessly to be considered as S-T CONCRETE. Even so it can have the Discourse Function of a NON-DISCOURSE REFERENT given the Propositional Function it fulfills, viz that of an ATTRIBUTE. It is worth noting that Partee's description also comprises a significant aspect of those uses classified by us as QUALITY on the dimension of Individuality. Is *a doctor* therefore to be interpreted as QUALITY as well? The answer is clearly no since the indefinite article in English, though compatible with NON-DISCOURSE REFERENTS, always carries the presupposition that there is one, and only one, individual who is involved in the situation expressed by the sentence. Otherwise NON-DISCOURSE REFERENTS are, for the most part, marked explicitly by a plural form. A number of exceptions allowing the transnumeral use of NPs that stand for NON-DISCOURSE REFERENTS with a clearly perceivable natural SHAPE but are not necessarily constructed as OBJECTS (vehicles as instruments, etc.) were discussed above (cf. (14a) and the translation of the German sentences in (15)).

Modern Greek is one of those languages where NON-DISCOURSE REFERENTS in the function of ATTRIBUTES can be constructed throughout without determiners regardless of the question of the SHAPE/SUBSTANCE distinction on the dimension of Form (cf. 2.3.3). In the example in (26), the jacket, the pantihose and the revolver, which all receive the value of SHAPE, are constructed in the form of a bare singular as constituting the requisites of the scenery in contrast to the young man, who appears as a new DISCOURSE REFERENT on the stage and as such is realized by an indefinite NP.

(26) Anikse tin porta ke parusiastike mbrosta tis **enas aghnostos nearos**,
 opened the door and appeared in front of her an unknown young man
 pu foruse **petsino sakaki**, ixē kalipsi to prosopo tu
 who wore leather:ADJ jacket had covered the face his
 me **jinekio kalson** ke kratuse sto xeri **peristrofo**
 with woman:ADJ pantihose and held in the hand revolver
 'She opened the door and an unfamiliar young man appeared before her who was
 wearing a leather jacket, had covered his face with woman's pantihose, and carried a
 revolver in his hand.'

In such cases, it is obligatory in Modern Greek to distinguish between singular and plural in all determinerless constructions which are to be interpreted as S-T CONCRETE. The respective NPs therefore always contain an implicit hint regarding the individuality of the NON-DISCOURSE REFERENTS. The sentences in (27), elaborating on Partee's example, demonstrate this.

(27) a. jatros mu to ipe afto
 doctor me it told that
 'A doctor told me that (implying that there was only one doctor).'

- b. *jatri mu to ipane afto*
 doctors me it told that
 'Doctors told me that (implying that there were several doctors).'

In other words, the configuration {NON-DISOURSE REFERENT, S-T CONCRETE} always implies OBJECTS. Only in S-T ABSTRACT contexts is it possible to have transnumeral interpretations of bare singular phrases; contrast (28a), which expresses a non-episodic state of affairs, to (28b), which introduces a DISCOURSE REFERENT:

- (28) a. *Ekini tin epoxi ipirxe vasiljas.* {NON-DISCOURSE REFERENT, S-T ABSTRACT}
 that the time existed king
 'At that time there was a king.' (i.e. 'there was a kingdom; not necessarily one king, but maybe several kings successively')
- b. *Ekini tin epoxi ipirxe enas vasiljas.* {DISCOURSE REFERENT, S-T CONCRETE}
 that the time existed a king
 'At that time there was a king.' ('...about whom we are now going to talk')

On transnumeral interpretations in habitual/iterative contexts, cf. also the comments on example (24) above.

Hungarian differs from Greek in that it preferably couples NON-DISCOURSE REFERENTS with QUALITY, constructing them as bare singulars. This is not only independent of the SHAPE/SUBSTANCE distinction, but also largely independent of the S-T ABSTRACT/S-T CONCRETE distinction. That is, bare singular NPs with a QUALITY value are also possible in combination with an S-T CONCRETE interpretation. Since in this construction the feature of QUALITY is the dominant one, "associative anaphoras" triggered by such constructions in the subsequent text are perfectly acceptable (cf. (30)). Note, however, that this is also the case with verbs derived from nouns. In fact, there is not much difference between the derived verb *zongorázik* ('play (the) piano') and the phrasal construction *ablakot pucol* ('clean the window(s)') (cf. (29)); both of them pertain to the intensional features of the respective object (piano and window). It is worth noting that in the case of an episodic PREDICATION such as in (30), the existence of the respective objects is presupposed independent of the question of morphological incorporation. That is, in the (a) sentence the existence of at least one piano and in the (b) sentence the existence of at least one window is presupposed. Furthermore, the first sentence in (30b) is yet ambiguous with respect to the number of windows Pali cleaned, one or more than one.

- (29) a. ENG: play (the) piano, GER: Klavier spielen, HUNG: *zongorázik* (← *zongora* ('piano'))
 b. ENG: clean the windows, GER: Fenster (PL) putzen, HUNG: *ablakot* (SG:ACC) *pucol*

- (30) a. *Pali délután zongorázott.* De nem vette észre,
 P. afternoon play (the) piano:PRT:3SG but NEG notice:PRT:3SG
hogy valaki elhangolta a zongorát /
 that somebody mistune:PRT:3SG:DEF DEF piano
hogy a billentyűkkel valami baj van.
 that DEF key:PL:INST something trouble be:3SG

'Pali played (the) piano in the afternoon but he failed to notice that somebody had mistuned the piano / that something was wrong with the keys.'

- b. Pali délután **ablakot** **pucolt**. De nem vette észre,
 P. afternoon window:ACC clean:PRT:3SG but NEG notice:PRT:3SG
 hogy valaki bemázolta **a keretet** ~ **a kereteket** /
 that somebody besmear:PRT:3SG:DEF DEF frame:ACC DEF frame:ACC:PL
 hogy valaki már előtte lemosta **az ablakot** ~ **az ablakokat**.
 that somebody already before him wash:PRT:3SG:DEF DEF window:ACC window:ACC:PL
 'Pali cleaned the window(s), but he failed to notice that somebody had besmeared the frame ~ the frames / that somebody had already cleaned the window ~ the windows before him.'

In Hungarian, NPs constructed as QUALITY may even trigger genuine anaphoric continuations in the following sentence. In the default case these are not marked by any independent pronoun, as is well known (except with focus, contrast, etc.):

- (31) a. **Regényt** vagy **kisregényt** írok. Egy epizódja
 novel:ACC or short novel:ACC write:1SG:INDEF one episode:POSS:3SG
 Füreden történik.²⁴
 in F. happen:3SG
 'I am writing a novel or rather a short novel. One of the episodes is set in Füred.'
- b. **Sárga ruha** volt Katin. De nem állt jól neki.
 yellow dress be:PRT:3SG on K. but NEG fit well:PRT:3SG her
 'Kati had a yellow dress on. But it didn't suit her.'

Interestingly enough, it is opaque contexts, among them objects of verbs such as *look for*, that reveal the impossibility of a complete cross-classification of the values of the dimensions of Spatio-Temporal Location and Individuality in all constructions. Hungarian also possesses an indefinite article, which implies an OBJECT interpretation as in English. The NP without the article and the NP with the indefinite article show a complete alternation in the context of the (a) and (b) sentences in (32). Both sentences are connected with the assumption of a specific male human²⁵. In the object position of the verb *keres* ('look for') the indefinite NP is ambiguous, in the same way as we know this from English (cf. (32d)). In opposition to that, the articleless NP permits only one, namely the "non-specific", interpretation (cf. (32c)). In other words, in this context QUALITY uses are incompatible with S-T CONCRETE uses.

- (32) a. **Német férfit** szeretek. {S-T CONCRETE, QUALITY}
 German man:ACC love:1SG
 'I love a German man, i.e. the man I love is German.'
- b. Szeretek **egy (INDEF) német férfit**. {S-T CONCRETE, OBJECT}
 'I love a German man.'

²⁴ Taken from Örkény (1992: 118).

²⁵ On cultural-pragmatic grounds the default interpretation is such that only one man is being loved in (32a) as well.

- c. Inkább **német férfit** keresek.
 preferably German man:ACC look for:1SG:INDEF
 'I'd rather find a German (man)/Germans.'
 {S-T ABSTRACT, QUALITY}, *{S-T CONCRETE, QUALITY}
- d. Keresek **egy (INDEF) német férfit**.
 'I'm looking for a German (man).'
 {S-T ABSTRACT, OBJECT}, {S-T CONCRETE, OBJECT}

In concluding our consideration of the dimensions of Spatio-Temporal Location and Individuality, a note on a peculiarity in the behavior of the lexical field of MATERIALS with respect to these dimensions is in order here. In many languages, lexical elements denoting MATERIALS appear predominantly in the bare singular, unless they are explicitly quantified (ENG: *gold*, GER: *Gold*). Such unquantified occurrences are always considered as QUALITY in our analysis. Yet they may, of course, take different values on the other dimensions, e.g. {DISCOURSE REFERENT, S-T ABSTRACT} ("generic") vs. {NON-DISCOURSE REFERENT, S-T CONCRETE}. This difference in interpretation is signaled in German by the form of the anaphoric pronoun, as example (33) shows:

- (33) a. Anna hat **Gold_i** verloren und Otto hat **es_i** / ***welches_i** wiedergefunden.²⁶ {NON-DISCOURSE REFERENT, S-T CONCRETE, QUALITY}
 'Anna lost gold and Otto found it again.'
- b. Weil Anna **Gold_i** liebt, hat sie ***es_i** / **welches_i** gekauft. {DISCOURSE REFERENT, S-T ABSTRACT, QUALITY}
 'Since Anna likes gold she bought some.'

At the end of this section we will introduce the last of our redundancy rules pertaining to the possible configurations of values on the dimensions presented so far. The configuration {S-T CONCRETE, QUALITY}, demonstrated in the Hungarian example in (32a) above and in the German example (33a) just discussed, presupposes NON-DISCOURSE REFERENTS on the dimension of Discourse Function, and ATTRIBUTES on the dimension of Propositional Functions:

(34)

[S-T CONCRETE, QUALITY] → [NON-DISCOURSE REFERENT, ATTRIBUTE]

2.3.3 The Dimensions of Taxonomy and Form

The assumption, in our model, of these two more specific dimensions was chiefly motivated by problems arising through terminological confusions or through overgeneralization of certain characteristics of English.

²⁶ Cf. Krifka (1991: 404).

The Dimension of Taxonomy

Unfortunately, in addition to the three senses depicted in the preceding section, the terms "type" and "token" are even used in a fourth sense. This is the sense underlying the treatment of what the literature calls "type/token ambiguities"²⁷. The expression "type" as used in this context is not simply understood as an abstract concept in the sense of something lacking spatio-temporal location (S-T ABSTRACT) or in the sense of something pertaining to the intensional features (QUALITY). Rather, "type" is here understood to be an element in a taxonomic hierarchy, i.e. a relational concept connected to other elements in the hierarchy (i.e. to "supertypes" (hyperonyms), "subtypes" (hyponyms)). We will call these uses "SORT uses". In the languages of the world, SORT uses may be generally made explicit by means of independent morphological elements (such as *sort*, *kind* in English (*three sorts of wine*) or else by means of affixes as in Hungarian (*-féle*, *háromféle bor* ('three sorts of wine'); the affix *-féle* is attached to determiners and quantifiers). Even if no explicit expression such as *sort*, *kind*, etc. is present, phrases interpretable as SORT typically show grammatical properties of COUNT phrases, i.e. they typically contain markers of multiplicity (i.e. quantifiers, plural forms, etc.) to indicate the existence of subsorts. Equally typical of SORT uses is the employment of demonstratives signaling contrast to other SORTS on the same hierarchical level. It is chiefly this context in which "type/token ambiguity" arises.²⁸ In contrast to references to SORTS, references to kinds in general are associated with the grammatical properties of MASS phrases, independent of the taxonomic position of these kinds. It is worth noting in this context that the ban on constructing the subject of a collectively interpreted generic statement with the indefinite article in English (*a lion*) is lifted when the NP is interpreted as reference to a SORT (cf. Krifka et al. (1995), who repeatedly point to the special status of a "taxonomic reading").

- (35) A (certain) lion (namely the Berber lion) will become extinct soon. (taxonomic reading)
(Krifka et al. 1995: 10)

In other words, SORT uses may be construed as OBJECTS on the dimension of Individuality. On the other hand, they point - like QUALITY uses - to intensional properties, namely those which delimitate them from other SORTS. Moreover, there is an interesting double connection of certain SORT uses to the two values on the dimension of Spatio-Temporal Location. Imagine sentence (36) is uttered in a concrete situation, in which someone pointing to his glass meaning the SORT of wine contained in the glass.

- (36) This wine tastes good.

The use of the demonstrative in the phrase *this wine* in such a situation constitutes an economical device to point deictically to a spatio-temporally localized OBJECT (a bounded

²⁷ Cruse (1986: 50) uses the term "unit-type ambiguity" for this phenomenon.

²⁸ Compare the following German anecdote, which exploits precisely this ambiguity:

Fragt der Fahrgast den Schaffner: "Wie lange hält dieser Zug?" - "Oh, bei guter Pflege bestimmt zwanzig Jahre." (The passenger asks the conductor: "How long will this train stop?" (Lit.: "How long will this train last?") - "Oh, with a lot of care at least 20 years.")

portion of MATERIAL, 'the sort of this portion of wine') and, at the same time, to contrast the spatio-temporally non-localizable SORT with all other SORTS of the same type ('this sort of wine, rather than other sorts'). In other words, even if the "type/token ambiguity" can be so maximized in certain contexts that it passes most (albeit not all) of the relevant ambiguity tests as shown by Cruse (1986: 63) and Behrens (1998), SORT uses may well unite both S-T ABSTRACT and S-T CONCRETE interpretations in a systematic way.

The Dimension of Form

The distinction between SHAPE and SUBSTANCE in this dimension is relevant only within the spatio-temporally concrete subdomain, i.e. only for those lexical elements which can be used to refer to entities which are located in physical space according to the speaker's mental world. In the case of SHAPE uses, entities are conceived with a particular shape, while in the case of SUBSTANCE uses entities are conceived as shapeless mass, either because they normally occur without natural bounding properties or because they occur with continuously changing and thus uncharacteristic shapes. It is our intention to treat this distinction separately from the much more general distinction between OBJECTS and QUALITY on the dimension of Individuality (cf. p. 9 above).

One of the reasons for this is the observation that the metaphor of the "Universal Grinder", first proposed by Pelletier (1975) but having gained much popularity in recent years, has proved to be misleading when applied in a cross-linguistic context. According to Pelletier's argumentation any COUNT noun can be transformed into a MASS noun. One has to imagine a hypothetical machine, a Universal Grinder, that may chop any object into a homogeneous mass, that is, it turns an object 'apple' or an object 'table' into a 'mass of apple' or a 'mass of table', parallel to the linguistic change from *an apple/a table* to *apple/table*.

In the meantime, this metaphor has come to be used for any kind of MASS/COUNT alternation,²⁹ e.g. for the grammatical change correlating with a lexical-semantic change in the case of *lamb* ('animal' vs. 'food') or *glass* ('material' vs. 'vessel'), or for the MASS/COUNT alternation in the case of *bed* (*a bed* vs. *bed* (as in *go to bed*)) or *train* (*a train* vs. *train* (as in *go by train*)). In our view the MASS uses of *bed* and *train* are QUALITY uses, which cannot be conceived of as "ground" to the same extent as, say, *lamb*. Likewise, it does not make much sense to assume that ANIMATE individuals are conceived of as a "shapeless mass" in a language in which the same form (e.g. bare singular) is employed in the use of HUMAN-denoting nouns as NON-DISCOURSE REFERENTS and in the unquantified use of MATERIAL-denoting nouns (e.g. in Modern Greek for the equivalent of *a doctor* in (25); cf. (27)). We proceed from the assumption that if a language has grammatical means for the above-mentioned distinctions observed in cases such as *lamb* or *glass*, these means do not necessarily have to be also employed in signaling NON-DISCOURSE REFERENTS or QUALITY generally, and vice versa. The distinction observed in *lamb* and *glass* is considered by us as

²⁹ The metaphor is not widely used for the description of MATERIALS used as SORTS (for this issue cf. the "Universal Sorter" in Bunt (1985)). However, it is, in principle, equally used in cases such as *lamb* (where one would be inclined to consider the ANIMAL sense as the primary one) and in cases such as *glass* (where the MATERIAL sense would rather be considered primary).

one between SHAPE and SUBSTANCE, and we accredit it to the typological make-up of English that it simultaneously appears as a distinction between OBJECT and QUALITY.

It is important to stress again that the SHAPE/SUBSTANCE distinction like all the other distinctions in this model is thought to be valid for realizations in the sentence in the first place. One of these uses may, of course, be dominant; also, the SHAPE/SUBSTANCE uses may be lexicalized as word senses. In this case we will say that a certain lexical form is lexicalized with a SHAPE or a SUBSTANCE interpretation, or we will talk about "SHAPE/SUBSTANCE senses".

It should finally be mentioned that the "distributive"/"collective" distinction may correlate with the SHAPE/SUBSTANCE distinction but is not identical and should therefore not be confused with it. For instance, Hungarian has two different interrogatives *mennyi* (normally translated as 'how much') and *hány* (normally translated as 'how many'). They are usually described in terms of the MASS/COUNT distinction and thus connected with a difference between SUBSTANCES and SHAPES. In reality, the choice between these two interrogatives signals more of a difference between a collective and a distributive interpretation. This is clearly evident in cases where a lexical form such as *fa* ('tree' and 'wood') is lexicalized both in a SHAPE and in a SUBSTANCE sense. The combination of *mennyi* with *fa* by no means merely yields the question 'how much wood...?'; rather, it is ambiguous between this interpretation and the interpretation 'how big a collection of trees...?'.

3 English

The following analysis of the English word family connected with *gold* is based on systematic search in several corpora, extraction of information from large dictionaries, and work with native speakers from different parts of the English-speaking world. The corpus from which most of the material was extracted is the British National Corpus. Examples taken from this are marked with the abbreviation BNC. The data was supplemented by another published corpus, the complete collection of Sherlock Holmes novels by Arthur Conan Doyle (marked SH), which form part of the Multilingual Corpus 1 produced by the Association for Computational Linguistics in Edinburgh. In addition, we have used examples from two corpora compiled by the authors in connection with the Lexical Typology Project in Cologne. One is the multilingual corpus containing translations of Antoine de Saint-Exupéry's *The Little Prince*; the English version of 1995 was used here (marked LP). The other is a collection of Donald Duck and Uncle Scrooge Adventures comics drawn and written by Carl Barks, in which gold is the main topic. These are marked with "MM-ENG". For complete bibliographical details on all these sources cf. the "References" section at the end of this work.

Dictionaries used are RANDOM, COLLINS, WEBSTER, LDOCE. Complete references are also given at the end of this book.

3.1 *Gold* as ATTRIBUTE in Nominal Phrases

When *gold* is constructed as an ATTRIBUTE in a nominal phrase, it is typically to be interpreted as QUALITY and S-T ABSTRACT. This obviously does not hold for the entire NP of which it is a part. This may also receive an OBJECT interpretation, for example when *gold* represents the ATTRIBUTE in an amount phrase (as in *3 g of gold*).

English has three different constructional devices marking ATTRIBUTES within nominal phrases (X is identical with the lexical stem; the subscripts _{MOD} and _{HEAD} stand for "modifier" and "head" respectively; an accent marks the primary stress):

- (a) $X_{\text{MOD}} N_{\text{HEAD}}$ (e.g. *golden circlet*)
- (b) $N_{\text{HEAD}} \text{PREP}$ (e.g. *of, in*) $X_{\text{MOD}}, N_{\text{HEAD}}$ PAST_PARTICIPLE (e.g. *made*) $\text{PREP } X_{\text{MOD}}$ (e.g. *circlet of gold, circlet made of gold*)
- (c) $'X_{\text{MOD}} N_{\text{HEAD}}, X_{\text{MOD}} 'N_{\text{HEAD}}$ (also recursively) (e.g. *gólđ rush, gold círclet*)

Traditionally, the modifier in (a) (*Xen*) is analyzed as an adjective, the modifier in (b) as a PP with the variable X given the status of a noun. In contrast to these relatively uncontested cases, the analysis of the two constructions in (c) has been extremely controversial. The categorial status of X has been a matter of heated dispute for far more than a century (cf. Jespersen 1954: 310): where is it to be analyzed as a noun and where as an adjective? And Bloomfield was probably the first in an impressive line-up of scholars engaged in the

controversy of whether the two structures in (c) can be differentiated in terms of a distinction between compounds and phrases (Bloomfield 1933: 228ff.; Marchand 1969: 21).

This is not the place for a complete account of the entire proportions of these controversies; we will only concentrate here on a number of essential points. The question of the status of the construction $X_{\text{MOD}} N_{\text{HEAD}}$ as a compound or a phrase basically involves two opposite approaches. According to one of them, a complementary assignment is made in dependence of the distribution of stress in isolation pronunciation: stress on the modifier \rightarrow compound, stress on the head \rightarrow phrase. This is the Bloomfield-Marchand solution (cf. Marchand (1969: 20-24); he uses the term "syntactic group" in lieu of "phrase"). According to the other, compounds are permitted to have both stress patterns - or, in generative terms, both of the stress rules called "compound stress rule" and "nuclear stress rule" in SPE, as well as other pairs of stress rules succeeding the two SPE stress rules (cf. Selkirk 1984). The assessment of this controversy presupposes the answer to a number of fundamental questions: what is the notion of a compound in a language in which there is no sign of morphological integration of modifiers into the head nouns (unlike, for instance, in German; cf. the lengthy discussion of the difference between English "compounds" and German and Greek ones in Bloomfield (1933: 228-9))? Are semantic criteria to be taken into account in such a language? Or should factors of transparency (with respect to a compositional interpretation in terms of established word senses) be considered as criterial, by analogy with languages having readily identifiable morphologically integrated compounds for which loss of transparency and association with "unitary concepts" constitutes a prototypical (albeit not a necessary) feature?

In particular those approaches which associate stress patterns complementarily with compounds and phrases exclusively on a formal basis are confronted with the problem that such an assignment is possible only for structures considered in isolation. In actual utterances stress patterns are also dependent on additional factors such as contrast or focus. The unfavorable consequence of this for such an approach is that, for instance, a segmental-morphologically unique modifier-head combination with a unique semantic interpretation which is not lexicalized but productively composed has to be analyzed both as a (non-lexical) compound and as phrase in dependence of factors such as utterance contrast or focus. This problem is usually circumvented by restricting the investigation to syntactic positions which require wide focus on the constituent as a whole, excluding all cases of narrow focus on the head or on the modifier. A further problem, often pointed out by critics of this approach, is posed by the fact that too many usualized, though compositionally interpretable, combinations seem to be limited to one of the two stress patterns (in isolation pronunciation) as to render the recognition of a semantic ratio behind the structuring of noun combinations as compound or as phrase possible. If we leave all these problems out of consideration, we can nevertheless point to the following facts: in productive new formations, we find a clear correlation between a default stress pattern, which manifests itself in isolation pronunciation and in utterances with a neutral information structure, and the semantic relation between modifier and head. For instance, if the element occurring in the modifier position is an argument of the head, modifier stress ($'X_{\text{MOD}} N_{\text{HEAD}}$) is preferred (cf. the notion of "rectional compounds" in Marchand (1969: 40ff.)). If, on the other hand, the modifier provides information about features characterizing the head, for example about certain CONSTITUTIVE properties of the head (such as the MATERIAL of which it consists) or about FORMAL properties of the head (such as SHAPE, COLOR, POSITION) - or with HUMANS about SOCIAL ROLE and

NATIONALITY -, then the head usually receives primary stress ($X_{\text{MOD}} \text{'N}_{\text{HEAD}}$) (cf. the role of the CONSTITUTIVE and FORMAL quales in Pustejovsky (1995); see also p. 43 below).

This correlation is most evident in such cases where (a) the lexical head is provided with the semantic component of EVENT such that it can take an argument and, simultaneously, denotes an object which can be characterized in terms of the features of the EVENT (i.e. in nouns of agent) and (b) the lexical modifier belongs to a set of lexical forms that can, on the basis of a systematic alternation (e.g. between SOCIAL ROLE and PERSON, NATIONALITY and LANGUAGE, etc.), realize either arguments or characteristic properties. Consider the following examples, which illustrate a correlation between semantic interpretations and stress patterns characteristic of English and which are ambiguous if prosodic features are not considered (e.g. in the written medium using regular orthography):

- (37) a. apprentice wélder ('welder who is an apprentice') vs. appréntice welder ('one who welds apprentices') (cf. Bates 1985: 28)
 b. English téacher ('teacher who has the English nationality') vs. Énglish teacher ('teacher who teaches English')

The lexical fields of SOCIAL ROLE and NATION(ALITY) plus a couple of other fields of "human propensities" (e.g. religious groups) and the lexical field of MATERIALS belong to those parts of the English vocabulary whose members are very frequently subject to double categorization as adjectives and as nouns. This practice is found both in conventional dictionaries³⁰ and in many theoretical linguistic approaches.³¹ Lexical forms such as *English* and *gold*, when occurring in the prenominal position, doubtlessly have the properties of systematically participating in two differing stress patterns and of systematically realizing both arguments and CONSTITUTIVE/FORMAL properties. Whether or not this justifies a double categorization is a different question that we will not further pursue here.

When modifiers are doubly categorized with respect to their part-of-speech status and a differentiation is made between compounds and phrases on the basis of their stress patterns, there is a tendency in the literature toward a specific assignment of the part-of-speech of the modifier and the structural relation between modifier and head: phrasal structure is associated with adjectival modifiers, which is chiefly motivated by the fact that "bona fide" adjectives - i.e. those which, in addition to their occurring in front of nouns and without determiners in the predicate position, also display the prototypical adjectival features such as occurring in the comparative, before *-ly*, and after *very* - productively require the phrasal stress pattern ($X_{\text{MOD}} \text{'N}_{\text{HEAD}}$) when combined with nouns. Compound structure, in turn, is associated with nominal modifiers. This is motivated by the fact that "bona fide" nouns - i.e. those which display the strongest contrast to adjectives, e.g. ARTIFACT-denoting nouns allowing direct countability - require the compound pattern ($\text{'X}_{\text{MOD}} \text{N}_{\text{HEAD}}$) due to their being arguments. In accordance with a strictly syntactic parts-of-speech concept, which determines parts-of-speech exclusively on

³⁰ For a detailed discussion of lexicographical criteria underlying double categorization on the basis of a comparative analysis of a variety of English dictionaries cf. Behrens (1995: 24-26).

³¹ Cf. for example the treatment of ambiguity (in the written language) in approaches such as Radford (1988: 212ff.) and v. Stechow/Sternefeld (1988: 123-124).

the basis of their respective realization in the sentence, this interpretation would indeed make sense: the prenominal position does not constitute a shared environment for adjectives and nouns; rather, adjectives and nouns are complementarily distributed in this position in that the former occur only with secondary stress, the latter only with primary stress. As far as we know, this extreme solution has never been proposed. One of the reasons for this might be sought in the reluctance to assume for usualized or semantically conventionalized combinations of a "bona fide" adjective with a noun, which show a compound stress pattern, that their first member is a noun. In other words, *black* in *bláckbird* is not normally analyzed as a noun contrasting with the adjective *black* in *black bírd*, nor is *Golden* in *Gólden State*.³² Thus, it remains an open question how lexical elements systematically capable of being interpreted as arguments or non-arguments in correlation with distinct stress patterns should be analyzed when occurring in a conventionalized structure with modifier stress: if *lady* in *lady driver* (on the interpretation 'female driver') is analyzed as an adjective and *lády driver* (on the interpretation of 'ladies' driver') as a noun, how then is *girl* in *gírl-friend* to be analyzed? As an adjective - like *lady driver* (and like *girl* in *girl mémbér*), because of the analogous interpretation and in spite of the stress difference? Or as a noun - like *lády driver*, because of its accentuation and in spite of the different semantic interpretation?

In the context of the present approach the assignment of the parts-of-speech of ADJ and N to compound and phrase will not play a prominent role. First, we do not think that the systematic occurrence of elements of a lexical field in environments characteristic of prototypical adjectives or prototypical nouns of other lexical fields necessarily implies their double categorization in the lexicon. With respect to their lexical potential of distribution they can be regarded as members of a common overall category. Incidentally, members of the lexical fields in question may be subject to restrictions in their potential of occurring in bona fide adjectival environments. It is doubtful whether MATERIALS - in contrast to NATIONALITIES which are good in these contexts - ever occur in the comparative/superlative or after *too* or *very*, except in certain metaphorical senses. For *gold* this is clearly restricted to the COLOR sense, as the examples in (38) show:

- (38) a. *This wrist watch is more gold than that one. (Intended sense: CONSTITUTIVE property.)
 b. This car is more gold than that one. (Intended sense: COLOR)
 c. It's too gold. I don't like it. (Intended sense: COLOR)

There is thus no good reason to project different semantic relations which may hold between modifier and head down to the level of parts-of-speech. Second, we believe that the differentiation between compounds and phrases, as long as this is drawn on a prosodic basis, is irrelevant to their assignment to lexicon or syntax. It is the differentiation between "frozen" semantic and/or prosodic structures on the one hand and structures which can be productively

³² What this ultimately means is that considerations with regard to the lexical potential of a form remain an important motor of category assignment. What is an "adjective by nature" cannot easily be interpreted as a noun even if it occurs in slots whose appropriate fillers are taken to be nouns. Interestingly enough, a quite different and much more attractive solution, which would match both speakers' and linguists' intuitions for languages with genuine compounds, namely that the modifier of a compound is neutral or unspecified with respect to its category status, is seldom taken into consideration.

generated on the other that is relevant for their allocation in the lexicon or in the syntax. And this differentiation cuts across the differentiation between compounds and phrases, i.e. we can differentiate between these two types both on the syntactic and on the lexical level.

In (39) - (41) we list a number of examples extracted from dictionaries³³ and from the literature, illustrating the formal devices $'X_{MOD} N_{HEAD}$, $X_{MOD} 'N_{HEAD}$, und $Xen_{MOD} N_{HEAD}$ to express ATTRIBUTES, with *gold* as X. On the basis of a preliminary grouping according to the choice of one of these means, the examples can be further divided into subgroups according to the semantic relation between modifier and head (subgroups (39e) and (41b) are merely examples of conventionalization). As already hinted above, we partially draw upon Pustejovsky's (1995) Qualia Structure model for our semantic classification. We will adopt from this model the terms - as well as the underlying ideas - of three of Pustejovsky's four qualia:

- (a) CONSTITUTIVE quale, defined as the quale "specifying the relation between an object and its constituents" (1995: 85) and containing information, inter alia, about "material";
- (b) FORMAL quale, defined as a quale "which distinguishes the object within a larger domain" (cf. *ibid.*) and containing information about "shape", "color", "position";
- (c) TELIC quale, containing information about the purpose of an object or its "built-in function or aim which specifies certain activities" (cf. p. 86).

In detail, we make use of the CONSTITUTIVE quale in referring to relations such as in (40a), of the FORMAL quale in referring to relations such as in (39d), (40b), and (41a), and of the TELIC quale in referring to relations such as in (39c).

- (39) a. *góld digger*, *góld digging*, *góld mining*, *góld rush*, *góldsmith*
 b. *góld field*, *góld mine*, *góld reserve*
 c. *góld basis*, *góld point*, *góld standard* (all of them financial terms)
 d. *góld dust*
 e. *góld beetle*, *góldbug*, *góldstone* ('aventurine')
- (40) a. *gold pláte* ('tableware made of gold'), *gold chlóríde*
 b. *gold fóil*, *gold léaf*
- (41) a. *golden áge*, *golden cálf*, *golden góose*, *golden méan*, *golden phéasant*, *golden rúle*, *golden shówer*
 b. *góldeneye*, *góldenrod* (COLLINS: *goldenród*), *góldenseal* (COLLINS: *goldenséal*), *Gólden State* (California)

We have investigated this area with the aid of corpora and elicitation from native speakers. The corpora consulted were chiefly the BNC corpus and the MM-ENG corpus. In BNC, queries were made for the concordance of a considerable number of selected lexical elements with *gold* in all potential forms of modifier realization. Stress conditions were tested with native speakers, both on the basis of corpus attestations (i.e. in context) and in isolation. In the following, we will present our findings regarding the distribution and the variation of formal

³³ In citations from dictionaries the unmarked stress pattern is that given by RANDOM.

means, systematized according to the semantic groups resulting from the relation between modifier and head.

In order to provide the reader with a general overview, the entire system is shown in Table 3. In addition to those already mentioned above, the table indicates a number of further relations (such as, for instance, "STATE (Existence)", "FORMAL property (Mode of Appearance = SHAPE, SUBSTANCE)"), which we will explain below in the discussion of the examples.

Table 3 Types of semantic relations between modifier and head

MODIFIER	HEAD	Constructions
MATERIAL = CONSTITUTIVE property (SUBSTANCE)	ARTIFACT, MATERIAL	$X_{MOD} 'N_{HEAD} \sim$ $Xen_{MOD} N_{HEAD} \sim$ $N_{HEAD} PREP X_{MOD}$
COLOR = FORMAL property	ARTIFACT, MATERIAL, BODY PART, PLANT, etc.	$X_{MOD} 'N_{HEAD} \sim$ $Xen_{MOD} N_{HEAD}$
MATERIAL = ARGUMENT ₂	EVENT/EVENT derivates STATE	$'X_{MOD} N_{HEAD} \sim$ $N_{HEAD} PREP X_{MOD}$
MATERIAL = ARGUMENT ₁	STATE (Existence)	$'X_{MOD} N_{HEAD} \sim$ $N_{HEAD} PREP X_{MOD}$
MATERIAL	TELIC property	$'X_{MOD} N_{HEAD} \sim$ $[N_{HEAD} PREP X_{MOD}]$
MATERIAL/COLOR	ABSTRACT property (Dimensionality, etc.)	$['X_{MOD} N_{HEAD} \sim]$ $N_{HEAD} PREP X_{MOD}$
MATERIAL	FORMAL property (Mode of Appearance = SHAPE, SUBSTANCE)	$X_{MOD} 'N_{HEAD} \sim$ $'X_{MOD} N_{HEAD} \sim$ $N_{HEAD} PREP X_{MOD}$

$X_{MOD} 'N_{HEAD}$ vs. $'X_{MOD} N_{HEAD}$

- (42) M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL

Primary stress: H

MM-ENG: gold armor, gold automobile, gold bathtub, gold bed, gold bicycle, (the ritzy) gold birthday present, gold coins, (a solid) gold door, gold gadgets, gold hat(s), gold igloo, gold locket, gold snowballs, gold statue, gold tooth, gold washing machine, gold watch, gold water taps, gold wrist watch

BNC: gold apple, gold bar, gold base, gold belt, gold boxes, gold bracelet, gold buckles, gold button, gold cap, gold chain, gold coin, gold crown, gold earring(s), gold embroidery, gold edge, gold frame, gold heart, gold headband, gold helmet, gold hands, gold horses, gold jewellery, gold mark, gold necklace, gold rattle, gold ring, gold tooth, gold torque, gold wire

- (43) M: COLOR = FORMAL property, H: ARTIFACT, MATERIAL, BODY PART, PLANT, etc.

Primary stress: H

BNC: gold eyes, gold evening dress, gold gazanias, gold hair, gold ink, gold jacket, gold lettering, gold line, gold paint, gold top, gold paper

- (44) M: MATERIAL = ARGUMENT₂, H: EVENT (incl. HUMANS, ARTIFACTS defined in terms of EVENTS)
 Primary stress: M
 MM-ENG: góld rush, góld strike, góld-digger, góld-finder, góld-seeker
 BNC: góld-digger, góld digging, góld mining
- (45) M: MATERIAL = ARGUMENT₁, H: STATE (Existence)
 Primary stress: M
 MM-ENG: góld fields, góld mine
 BNC: góld stock
- (46) M: MATERIAL, H: TELIC property
 Primary stress: M
 BNC: góld cover, góld standard
- (47) M: MATERIAL, H: ABSTRACT property (Dimensionality, etc.)
 Primary stress: M
 Dictionaries: góld value
- (48) M: MATERIAL, H: FORMAL property (Mode of Appearance)
 Primary stress: M
 MM-ENG: góld dust, góld flakes (for some speakers: gold flákes)
 BNC: góld dust
 Primary stress: H
 MM-ENG: gold bríck
 BNC: gold bríck, gold íngot, gold léaf

Our investigation revealed that there are actually only two types of semantic relations between head and modifier which are confined to the stress pattern $X_{\text{MOD}} \text{'N}_{\text{HEAD}}$, unless head and modifier constitute a lexicalized unit. These are the relations in which *gold* in the modifier position represents a CONSTITUTIVE or FORMAL property of the head, with the latter lexically denoting ARTIFACTS, MATERIALS, etc. (cf. (42) and (43)). If *gold* realizes the second argument of a head with an EVENT component (i.e. if the head is an EVENT nominalization or contains EVENT as a component as in certain other types of nominalization (e.g. nouns of agent)), then - as expected - the stress pattern $\text{'X}_{\text{MOD}} \text{N}_{\text{HEAD}}$ appears (cf. (44)). The same is true of those comparatively rare cases where the head has a STATE (rather than an EVENT) meaning and where *gold* likewise appears as the second argument. Apart from conventionalizations such as *góld fever*, though, only the prepositional construction (*lust for gold*) is almost always attested in these cases (cf. further below). From this, we distinguish a further head-modifier relation with STATE as the head (cf. (45)): this head is an existential expression (such as *supply*, *stock*, *source*, etc.) and the modifier specifies the first argument (i.e. the existing entity). As is frequently the case with such expressions, the modifier-head construction and the head itself have a very similar semantics, with the consequence that they are substitutable in many contexts (e.g. *find gold*, *find a supply of gold*). The modifier-head construction additionally expresses that the entity in question is found in a certain location, i.e. is existent in this location. This location may also be fixed as in the case of *gold fields* and *gold mine*. If we regard the relation between arguments and EVENTS as the prototypical domain of modifier

stress, we can say that this device of marking "rectional relation" has been highly generalized and therefore transferred to such peripheral cases. A similar statement could be made for that group of head-modifier combinations (cf. (46)) whose head constitutes a TELIC property of the modifier and which, for the most part, contains financial terms such as *gold standard*: this, for instance, is a monetary system with gold as the unit of value, i.e. this type of monetary system is defined with the help of gold and being used as a standard value in monetary systems is therefore one of the "built-in functions" of gold.

This type of semantic relation constitutes the link to two further relations in which the head is the element that expresses a property, namely a nominally realized property of the syntactic modifier *gold*. The first of these two pertains to such ABSTRACT properties as *value, price, function, essence*, etc. (cf. (47)). In a number of languages this relation is always realized in a way different from that between EVENT heads and their arguments. There are good reasons to believe that *gold* is to be interpreted here as a generic DISCOURSE REFERENT. This is confirmed by data from Arabic (cf. p. 101, 105 below). In English, this is evident only from the preference of the prepositional construction; of all the combinations tested in this group, *gold value* - as a usualized expression - is the only one which is attested throughout with prenominal *gold*. Here, as in those of the other combinations which permit the prenominal variant at all (e.g. *gold price*), we find modifier stress. In the second and last type the nominal head specifies the form of appearance of the syntactic modifiers. Among these cases we count all combinations of *gold* with a UNIT noun (*piece, unit*, etc.) (cf. (48)). This is the only group where we came across significant variation in the stress patterns. These variations were of two kinds: first, different accentuations in dependence of the head, which could be interpreted in terms of two subtypes (cf. further below), and second, differing native speaker judgments with the same head. This problem will be discussed below in connection with the prepositional construction.

The overwhelming majority of the attestations in the corpora, both in general and in particular with regard to productive combinations, come from the first two groups (MATERIAL as CONSTITUTIVE property (cf. (49)), COLOR as FORMAL property (cf. (50))).

- (49) I want to sleep in a **gold béd** and drink water out of **gold wáter taps** and take a bath in a **gold báthtub!** (MM-ENG)
- (50) The red silk skirt with workers' heads and a **gold tóþ** that goes with it, both **cut from silk** bought in Soviet Central Asia, would cost about 1,000 roubles (the average Soviet wage is 200 roubles a month) or £700 in London. (BNC)

The productivity of the pattern $X_{MOD} 'N_{HEAD}$ in these two groups is also indirectly evident in the fact that *gold* as MATERIAL or COLOR with stress on the head not infrequently alternates with the same morphological sequence with modifier stress, the latter having a figurative meaning (e.g. as a name for an animal or a plant) or else a more usualized meaning of a different type. The latter in no way block the head accentuation with the interpretation 'consisting of gold' or 'gold-colored', as shown by the following examples:

- (51) gold cöver vs. góld cover, gold ápple vs. góld apple, gold cúp vs. góldcup ('Ranunculus sp.'), góld threád vs. góldthread ('Coptis trifolia'), gold fish vs. góldfish

X_{MOD} 'N_{HEAD} vs. Xen_{MOD} N_{HEAD}

In (52) we can see examples for the variation between the bare form (*gold*) and the adjectival form (*golden*) in the modifier position, taken from the BNC corpus. Both constructions are attested in conventionalized senses, e.g. *golden apple* ('the mythological apple'), *gold belt* ('name of a region (*the Dolgellau gold belt*)'), *góldfish* ('*Carassius auratus*'), *golden ring* ('name of a region in Russia'). The figures in parentheses represent the total number; behind this the number of conventionalized attestations, which are sometimes the only ones, is given.

In the interpretation MATERIAL as CONSTITUTIVE property the bare form unequivocally dominates, in the interpretation COLOR as FORMAL property (*gold hair* vs. *golden hair*) the adjectival form. In addition, it is worth noting that the non-dominant adjectival variant with the CONSTITUTIVE interpretation almost exclusively occurs in historical texts or in fairy tales. The adjectival form is apparently employed to produce quite special stylistic effects (cf. (53a, d)). Variation without distinct stylistic correlation as in (53b) and (53c) is the exception. Moreover, some of the stylistically marked attestations for the adjectival form (cf. (53d)) suggest that the distinction between 'consisting of solid gold' vs. 'covered with gold' does not have any significance for the choice between *gold* vs. *golden* in the prenominal position (i.e. *golden* is probably used in the first interpretation in the same way as *gold*; but cf. the discussion of *gilt*).³⁴

- (52) gold apple (1) vs. golden apple (5, conv.: 5), gold belt (4, conv.: 2) vs. golden belt (1, conv.), gold chain (77) vs. golden chain (2), gold crown (8, conv.: 3) vs. golden crown (6), gold earrings (21) vs. golden earrings (1), góldfish/góld fish (hundreds of tokens, conv.: all) vs. golden fish (4, conv.: 4), gold helmet (1) vs. golden helmet (3), gold necklace (12) vs. golden necklace (1), gold ring (45) vs. golden ring (5, conv.: 4), gold tooth (6) - golden tooth (1), gold hair (20) vs. golden hair (71)
- (53) a. ...and seven-score [sic!] horsemen all the son of kings, in their green mantles fringed with gold, and **golden helmets** on their heads and **golden greaves** on their limbs and each knight having in his hand a **golden spear**. (BNC)
- b. Last year she had come to his school for the first time, and every eye had turned to gape at her long red hair and **golden earrings** as she swept into the assembly-hall wearing her special dress. (BNC)
- c. Heavy **gold chains** were coiled around her long neck, and chunky **gold earrings** swung from her pierced ears. (BNC)
- d. Inside St Michael and All Angels, women were arranging the flowers in **golden tubs**. There were tall gleaming candlesticks, a glittering cross so bright it seemed to burn, and an enormous **golden eagle** with hooked beak and shiny dangerous eye. "Gold!" whispered Dot. "I ain't never seen **so much real gold** before! (BNC)

³⁴ In cases where this differentiation is significant, one usually resorts to explicit expression. Cf., for instance, the following excerpt from the BNC corpus:

Have you seen Mark's erm earphones? Headphones. Like in gold, they're sort of I mean they're not real gold, gold plated on the outside.

Our queries in BNC and the search made in MM-ENG for the concordance of a certain lexical element with *gold/golden* yielded, in turn, the following results: the adjectival form *golden* appears exclusively (i.e. without its partner *gold* N being attested in the same corpus) with the word form of a certain lexical element only in the following cases: the combination of *golden* with this element

- (a) has a lexicalized interpretation which is the only one in which it occurs, the non-attested compositional (CONSTITUTIVE) interpretation of *golden* N being either not attested only by chance or ontologically improbable (BNC: *golden rule*: in the sense 'consisting of gold' ontologically impossible, in the sense 'gold-colored' possible on the assumption of a metonymical extension of *rule*, but not very probable; *golden goose*, *golden pheasant*: ontologically very well possible in a systematic metonymical interpretation of *goose* and *pheasant* (INDIVIDUAL → REPRESENTATION of INDIVIDUAL), e.g. as jewelry in the form of a goose/pheasant made of gold, but not attested by chance; MM-ENG: *golden roofs*, *golden goose*, *golden fleece*);
- (b) can only be understood in the COLOR interpretation (BNC: *golden lustre*);
- (c) is very rarely attested in the respective corpus and only in a historical context or in a pun (MM-ENG: *golden bracelets*).

$X_{MOD} \text{ ' } N_{HEAD} \text{ vs. } X_{en} \text{ } N_{MOD} \text{ } N_{HEAD} \text{ vs. } X=PART \text{ } N_{MOD} \text{ } N_{HEAD}$

The participial form *gilt* ('covered with gold') seems to be strongly obsolescent in English and appears - in the place of *gold/golden* - in the corpora only in combination with specific lexical elements, e.g. with *frame*. The noun *frame* in the sense of 'picture frame' is one of those nouns which still allow a free modifier variation in the respective interpretation: *gold fráme* (15 tokens), *golden fráme* (1 token), *gilt fráme* (7 tokens) (BNC attestations). In most of the other nouns whose tokens are equally attested with *gold*, *golden*, and *gilt*, the corpus attestations represent different senses each, either in the head noun itself or in the entire construction (cf. the attestations in combination with *edge* in BNC: *gold édge* ('term used in electronic engineering'; only attested as a complex modifier (*gold edge connector*, *gold edge connector contacts*)), *golden édge* ('gold edge of a plate'), *gilt édge* ('gilded edge of an invitation card').

$X_{MOD} \text{ ' } N_{HEAD} / \text{ ' } X_{MOD} \text{ } N_{HEAD} \text{ vs. } N_{HEAD} \text{ PREP } X_{MOD}$

With the exception of two, all semantic relations are attested with the prepositional construction $N_{HEAD} \text{ PREP } X_{MOD}$. One of the exceptions is due to a systematic gap, the other is presumably fortuitous. The systematic gap pertains to the relation in which *gold* in the COLOR sense represents a FORMAL property in the modifier position. All the attested examples in which *gold* in the COLOR sense appears as X in the structure $N_{HEAD} \text{ PREP } X_{MOD}$ (e.g. *shades of gold*) are cases where the head has to be interpreted as an ABSTRACT property of the likewise ABSTRACT COLOR concept. The putatively accidental gap is the relation which has the head as a TELIC property. The absence of an attested prepositional construction for this constellation may be due to the fact that this area is predominantly occupied by technical terms which are probably usualized in one of the two grammatical constructions available (not attested: *standard of gold*, *cover of gold* (in the sense relevant here)).

- M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL

The corpus examples confirm the assumption of systematic variation between the structures $X_{MOD} N_{HEAD}$ and $N_{HEAD} PREP X_{MOD}$. At the same time they show that this variation is systematically dependent on a number of factors such as

- "heaviness" of the modifier structure (i.e. in the case of accumulation of (hierarchically equivalent) modifiers in an NP a tendency toward favoring the prepositional construction can be observed) (cf. (54));
- contrast (in a co-ordination of different MATERIAL expressions, which evokes implicit contrastivity, there is likewise a tendency toward the choice of the prepositional construction) (cf. (54a));
- focus (cf. (55a)),
- status of the entire nominal phrase as DISCOURSE REFERENT vs. NON-DISCOURSE REFERENT (for the former the prepositional construction is markedly favored (cf. (55) vs. (56a)), in particular if it is a generic DISCOURSE REFERENT (i.e. QUALITY, S-T ABSTRACT) (cf. (55b)).

- (54) a. The exhibition includes some delicately-worked **gold jewellery**, most of it found in Celtic tombs in the past 100 years: typically **gold or silver torques, or saddle and bridle decorations of gold, silver, coral and enamel**. (BNC)
- b. I got **this fabulous twenty-four carat moon, five hundred miles thick, of solid gold**. (MM-ENG)
- c. Holmes walked over to his desk, took out **a little triangular piece of gold with three gems in it**, and threw it down upon the table. (SH)
- (55) a. **This band of gold** probably originates from Egypt, where lovers wore it on the fourth finger of the right hand or ring finger. (BNC)
- b. **The circlet of gold** and jewels is a potent symbol of the Vallens dynasty which is re-established through diplomacy and through the wishes of the nation:... (BNC)

We had expected a preponderance of the prepositional structure in the cases where *gold* is constructed with an adjectival specification (such as *solid gold, heavy gold*) - i.e. when it is marked as a specific SORT of gold by means of an ATTRIBUTE. This was only in part confirmed (cf. (56b)); during our corpus queries we have repeatedly encountered examples in which the prenominal construction was chosen even at the cost of a bracketing ambiguity (cf. (56c)).

- (56) a. **A gold ornament** found in the Knossos Labyrinth seems to represent the Cretan skaros or parrot wrasse, which is now quite rare in Cretan waters but still highly regarded as a dish (Figure 36c). (BNC)
- b. It was filled with beads and jewels and **ornaments of heavy gold** (MM-ENG)
- c. We've reached **a solid gold door**. (MM-ENG)

On the other hand, indefinite and quantified phrasal contexts prove to be highly favorable factors for a prenominal positioning of *gold*, except when they interact with one of the above-

mentioned factors supporting the postnominal prepositional construction (e.g. contrast). Of particular interest in this context are those cases which were judged as odd or unusual by some of the native speakers in the elicitation of the isolated item (such as *gold treasure*) (cf. (57 a vs. b)).

- (57) a. **Ancient church treasures of gold, silver, ivory and rock crystal**; enamelled, filigreed, and bejewelled, which were stolen from Quedlinburg by a US army lieutenant in 1945, have been returned to Germany,... (BNC)
 b. Highlights are **two gold treasures**, the "Schatz von Hiddensee", sixteen pieces of gold jewellery which were found on the shore of the Baltic, and the twenty-five piece set of jewellery of the empress Agnes. (BNC)

An alternative to the $N_{\text{HEAD}} \text{ PREP } X_{\text{MOD}}$ construction is the construction extended by a past participle (e.g. *ornaments made of gold* as in (58a) instead of *ornaments of gold* as in (56b)). These constructions are favored by the same above-mentioned conditions as the simple prepositional constructions (cf. (58b)).

- (58) a. ...but occasionally other grave goods occur, such as copper-alloy knives, **archers' wristguards of stone** and, in some instances, even **personal ornaments made of gold**. (BNC)
 b. Platinum was also used to plate **objects made of gold or tumbaga**, as in the case of a human mask from the Esmeraldas region of north Ecuador. Similarly the Esmeraldas smiths took advantage of variations in colour to insert platinum eyes **into masks of gold or tumbaga**. (BNC)

- M: MATERIAL = ARGUMENT₂, H: EVENT/EVENT derivatives/STATE

We also find variation throughout between the prepositional construction and the prenominal modifier-stressed construction, similar to the variation between the prepositional construction and the prenominal head-stressed construction in the previous group. In principle, the decisive factors for the choice of one of the construction are the same here as there. Compare the Discourse Function status of the NPs containing *gold* in the examples (59a) vs. (59b) and (59e). It has to be stressed, though, that the establishing of DISCOURSE REFERENTS in the permanent registry or through previous mention by far have no predictive significance for the selection of $N_{\text{HEAD}} \text{ PREP } X_{\text{MOD}}$, as examples such as (59c) and (59d) demonstrate.

- (59) a. This became a national issue focussing **on the proposed mining of gold** on Croagh Patrick in Co. Mayo. (BNC)
 b. This question echoes those regarding sustainable development raised by the opponents **of gold mining** in the west of Ireland and by opponents of Merrell Dow in east Cork. (BNC)
 c. Of course **gold prospecting** in Ireland started much earlier than this — in 1957 Anglo-United were prospecting for gold in Clentibret, Co. Monaghan,... (BNC)
 d. The first reaction **to the gold prospecting** came when a group of concerned people formed the group Mining Awareness following press reports in March 1988 of gold finds in Conamara and Mayo. (BNC)

- e. This is because **production of gold**, at the fixed price of \$35 an ounce, was insufficient to provide for both its industrial and monetary uses. But perhaps more importantly, other countries found dollars not just as good as gold, but better than gold, since they could earn interest on their dollar holdings. In the 1950s about three-fifths of **total gold production** found its way into official reserves. (BNC)

For the sake of completeness it should also be pointed out that the choice of the preposition (*of* vs. other prepositions such as *for*, etc.; cf. *search for gold*, *looking for gold* (both attested in BNC)) of course conforms to the lexically fixed rectional behavior of the verb underlying the nominal expression (cf. (60a)). In the case of STATES generally prepositions other than *of* dominate (cf. (60b); but cf. also (60c)).

- (60) a. A weekend's sport in California no longer requires a surfboard: **panning for gold** is now the sport of choice. (BNC)
 b. **His wicked lust for gold** kindled at the news, and he bent her to his will. (SH)
 c. If **your hunger of gold** be so insatiable that onely for the desire you have thereto, you disquiet so many nations,... (BNC)

- M: MATERIAL = ARGUMENT₁, H: STATE (Existence)

The overwhelming majority of corpus examples manifesting this type appear with the PP *of gold* (BNC: *presence of gold*, *source of gold*, *shortage of gold*, *supply of gold*, etc.). Exceptions are the usualized expressions *gold fields* and *gold mines* (cf. figurative sense present in (61b), which has developed on the basis of the usualized literal interpretation). It is worth noting that even these admit a prepositional construction when focus or contrast comes into play:

- (61) a. We gotta find **mines of gold**! (MM-ENG)
 b. Oh, boy! Have we ever found a **gold mine of old metal**! (MM-ENG)

- M: MATERIAL, H: ABSTRACT property (Dimensionality, etc.)

As already mentioned above, the postnominal (i.e. prepositional) variant unequivocally dominates in this type of head-modifier relation. The following list shows a selection of lexical elements for which *gold* is a frequent "genitival" modifier: *price*, *value*, *quality*, *colour*, *function*, *role*, *effect*, *definition*, *appeal*, *property*, *essence*, *characteristics*, *durability*, *visual splendor*, *supremacy*, *softness*, *yellowness*, etc. One finds here a number of minimal pairs (as, e.g. *the price of gold* in (62)), whose one member - by virtue of a S-T ABSTRACT context - foregrounds the QUALITY aspect of *gold* (in the (b) sentence), while the other - by virtue of a S-T CONCRETE context - foregrounds the collective interpretation of all available quantities of gold (in the (a) sentence) (cf. section 3.3).

- (62) a. **The price of gold** plunged 7% in a single day immediately after the Gulf war broke out — evidently on hopes that the war would be brief. (BNC)
 b. For all its prominence, **the price of gold** is vulnerable to manipulation. (BNC)

- M: MATERIAL, H: FORMAL property (Mode of Appearance)

It is well known that the prepositional pattern is dominant in explicit quantifications by means of numeral and quantifiers, i.e. it is also used with all potential UNIT nouns (as in combination with standardized measure units):

- (63) five tons of gold, two ounces of gold, two pounds of gold, one cup of gold, five seams of gold (MM-ENG)

Otherwise, this type of relation offers a relatively complex distribution of the three different constructional devices marking ATTRIBUTES within nominal phrases:

- (64) a. ok [x_{MOD} N_{HEAD}], * [x_{MOD} 'N_{HEAD}], ok [N_{HEAD} PREP x_{MOD}]: *nugget* (for some speakers c.),
piece, particle, vein, seams
b. ok [x_{MOD} N_{HEAD}], * [x_{MOD} 'N_{HEAD}], * (in the intended reading) [N_{HEAD} PREP x_{MOD}]: *dust* (*dust of gold* is ok in the reading 'dust (literally) of gold particles with which s.t. is covered')
c. * [x_{MOD} N_{HEAD}], ok [x_{MOD} 'N_{HEAD}], ok [N_{HEAD} PREP x_{MOD}]: *brick, ingot*
d. * [x_{MOD} N_{HEAD}], ok [x_{MOD} 'N_{HEAD}], * (in the intended reading) [N_{HEAD} PREP x_{MOD}]: *leaf* (*leaf of gold* is ok in the reading 'a leaf (e.g. made by an artist) consisting of gold')
e. * [x_{MOD} N_{HEAD}], * [x_{MOD} 'N_{HEAD}], ok [N_{HEAD} PREP x_{MOD}]: *lump*
f. ok [x_{MOD} N_{HEAD}], ok [x_{MOD} 'N_{HEAD}], * [N_{HEAD} PREP x_{MOD}]: ?
g. ok [x_{MOD} N_{HEAD}], ok [x_{MOD} 'N_{HEAD}], ok [N_{HEAD} PREP x_{MOD}]: *flakes* (for some speakers a., for others c.), *foil*

Several of the combinations with *gold* are head-stressed, others modifier-stressed, and there is probably one group each in which both accentuations are acceptable (*foil* is probably a candidate) and in which none is acceptable (*lump* is probably a candidate; *gold lump* is neither attested in BNC nor accepted by any of the informants consulted). In this type of relation native speakers show the greatest insecurities when examples are elicited in isolation (e.g. with *flakes*). Nevertheless, certain regularities clearly emerge: UNIT nouns denoting forms of natural occurrence tend to modifier stress (as if the MATERIAL whose parts they designate were an argument) - while with "artificial forms" such as *brick* a tendency toward head stress can be observed, as if these were ARTIFACTS capable of being characterized by a CONSTITUTIVE property. The evidence points to the fact that the *of* construction is generally acceptable, at least with contrast, etc. Some of the UNIT nouns for which our informants rejected the prepositional construction (e.g. *item*) were nevertheless found in the corpus (cf. (65b)). The factor of "contrast" seems to be weaker here than in other groups (cf. (65a)). It is, however, strong enough to render constructions possible that were rejected by native speakers in isolated elicitation. This is another instance of an interesting discrepancy between native speaker elicitation and corpus research. The case is similar to that depicted above regarding the item *treasure* - once conditions favoring a certain construction are present, the use of this construction is possible even if the alternative variant is usualized. The discrepancy between elicitation from native speakers and corpus investigation may also work in the opposite direction: BNC does not contain any attestations of *gold vein*, which was perfectly accepted by native speakers.

- (65) a. One example of this is a black inlay material known as niello, which is found **on gold, silver, bronze and brass items** from as far apart as first-century AD Rome and nineteenth-century AD Moscow, ninth-century AD Persia and thirteenth-century AD England (fig. 5.16). (BNC)
- b. The observables, **the exotic items of gold, amber, shell, garnet, pottery** (and perhaps what it contained, for instance wine), **glass, mercury, ivory**, may give us a distorted image of the nature of exchange, but there is no reason for rejecting the acceptance of the pattern at face-value. (BNC)

Finally, we want to point out an interesting tendency emerging in the marking of metaphorical domains. This is the proper domain of *-en* adjectives. As mentioned above, *-en* adjectives are found sporadically in strongly conventionalized expressions; in the interpretation 'consisting of gold' they occur almost exclusively in stylistically strongly marked texts; even in the figurative, and by now firmly established, interpretation 'gold-colored' they gradually give way to the bare forms (with head stress). However, in other metaphorical senses (such as WORTH) its use seems to be downright productive. An interesting case relevant here is the combination of *gold* with *heart*. In the use as 'consisting of gold' (CONSTITUTIVE property = MATERIAL) only the pattern $X_{MOD} N_{HEAD}$ is represented in BNC (cf. (67a)). In the metaphorical sense 'kind-hearted, good-hearted' the constructionally conventionalized expression *heart of gold* dominates (cf. (67b)). Nevertheless, the construction with the morphologically derived adjective is also attested once in a PP (cf. (67c)).

- (66) gold héart (6) ~ golden héart (0) ('heart made of gold as a locket') vs. heart of gold (32) ~ golden héart (1) ('kind/good heart') (numbers indicate tokens in BNC)
- (67) a. Sebastian bought her a ring, **with a little gold heart** and an inscription... (BNC)
- b. ... Mrs Barrantes said: "Andrew is a good-looking boy and has **a heart of gold**." (BNC)
- c. The only representative of the species I'd met till then had been Jean Carmichael, **with** her hairy legs, head for hard liquor, and **golden heart**. (BNC)

3.2 *Gold as an OBJECT with and without SHAPE*

In principle, there are two ways of signaling that an entity is to be conceptualized as a bounded region in some world, i.e. that it is thought of as an OBJECT rather than as a bundle of properties. One is quantification and the other determination. As emerges from the theoretical discussion in the first part of this work, we consider the explicit employment of quantifying grammatical devices a sufficient indication that an OBJECT conceptualization takes place. By contrast, determination is neutral with respect to the distinction between OBJECTS and QUALITIES. The explicit application of determiners, e.g. of definite articles, may have a bounding effect precisely like that of quantifiers (as, for instance, in the phrase *the water* in the case of reference to a bottle of water standing on the table). It comes as no surprise that certain determiners (*the, that*, in contrast to numerals) are among those elements of the

grammatical MASS/COUNT paradigm in English which are ambiguous with respect to the assignment of MASS and COUNT values (cf. Behrens (1995) on the question of the uniformity of the English MASS/COUNT paradigm). Moreover, the use of determiners with QUALITY-specified entities is likewise possible. As exhaustively discussed in 2.1, many languages require a definite article or a comparable definitivizing grammatical marking for the combination {QUALITY, DISCOURSE REFERENT} (cf. also sections 4.3 and 4.4 on Arabic). English is characterized by a strong tendency to employ bare forms (SG/PL) in this context and admits the use of articles only in strongly restricted areas. In section 3.3 we will in more detail inquire into the question of whether the definite article is possible with a generic use of *gold*.

First, however, we will look into the effects of quantifying and determining devices on the interpretation of NPs containing *gold* as their constituent.

3.2.1 Quantification

On the basis of the difference between numerals and quantifiers such as *all* on the one hand and fuzzy quantifiers such as *few*, *much*, *many*, etc. on the other, we may distinguish between two types of quantificational specification (of entities): (a) a precise specification of an amount is made, e.g. by means of a numeral plus a standardized unit of measure, or (b) an amount is vaguely indicated by means of a fuzzy quantifier. In (68) we can see a number of examples in which *gold* is the constituent of a precise measure construction, i.e. it is combined with an amount phrase, which, in turn, consists of a numeral and a standardized unit of measure such as *kg*, *ton*.

- (68) a. France had returned **2,246 kg of gold** to Lithuania on Oct. 4, 1991... (BNC) (S-T CONCRETE)
- b. The supreme court declined to hear a case involving **a ton of gold recovered so far from the SS Central America, resting in 8,000 feet of water off the coast of South Carolina after being sunk by a hurricane in 1857**. (BNC) (S-T CONCRETE)
- c. To curb gold smuggling, returning and expatriate Indians would be allowed to import **5 kg of gold** each, paid for (with 15 per cent duty) from foreign currencies earned abroad. (BNC) (S-T ABSTRACT)
- d. China produces about **60 tonnes of gold** annually. (BNC) (S-T ABSTRACT)
- e. **42 tons of gold** had been extracted by 1987 with one nugget weighing 63.39 kilos. (BNC) ({ATTRIBUTE, S-T CONCRETE})
- f. **The 1,574 kg of gold, found in southern German caves at the end of the war**, had since that time been administered by a tripartite commission of France, the UK and the USA. (BNC) ({TOPIC, S-T CONCRETE})

Such expressions could easily be associated with S-T CONCRETE uses, in which a quantifying indication is given about a specific entity. This is, of course, not justified. Measure expressions may well appear in intensional, habitual, etc. contexts just like the NPs with an indefinite article though these are much more frequently mentioned in this regard in the literature. Moreover, they may be ambiguous just like the latter between a "specific" and a "non-specific" interpretation if the context permits such an ambiguity. The (a) and (b)

sentences (68) illustrate an S-T CONCRETE use, the (c) and (d) sentences an S-T ABSTRACT use respectively: in (68c) we have a hypothetical, in (68d) a habitual context. In addition, measure expressions may also represent different Propositional Functions: the phrase *42 tons of gold* in (68e) shows a use as an ATTRIBUTE, while the definite phrase in (68f) is used as a TOPIC; the latter is therefore provided with a determiner.

Admittedly less common and not very frequently attested in the corpus are sentences such as those given in (69). In (69a) a characterizing statement is made about a precise amount of gold, which, however, fails to be spatio-temporally localized (i.e. '25 g of any gold'); in view of the configuration (TOPIC, S-T ABSTRACT) this sentence has in fact a "generic" flavor, even if the subject lacks the third important feature of generic subjects (QUALITY). In (69b) an entire measure expression rather than just an amount phrase appears as the complement of the dimensional adjective *worth*. The usual way of expression in English is such that when the measured entity is constructed as a subject and the dimension is expressed by a linking predicate (*weigh, be worth, etc.*), the complement of these dimensional expressions is only an amount phrase (cf. (69c)). In (69b) however, two different dimensions are mixed, that of price and that of weight. Of course, this appears quite normal in a monetary system in which gold is defined as the standard unit of price. The rarity of the construction illustrated in (69b) is therefore to be attributed to the fact that gold as a unit of payment has de facto become rare in our times. Independent of the question of rarity, the construction in (69b) is best interpreted as a construction of comparison: *each piece* is said to have the same value as *two loads of gold*. At any rate, the phrase *two loads of gold* is to be interpreted as an S-T ABSTRACT. In the MM-ENG corpus we came across a further similar example (cf. (69d)), which most probably is to be regarded as elliptic, i.e. as lacking a linking dimensional expression such as *cost*. Cases like (69c, d) have to be distinguished from a sentence such as (69e), where the measure expression (*eight kg of gold*) appears as a proper PREDICATE in a deictic context.

- (69) a. Pure gold can be beaten out to form very thin sheets; according to Pliny, writing in the first century AD, **25 g of gold** could be beaten into 750 leaves each 10 cm square. (BNC) ({{TOPIC, S-T ABSTRACT}})
- b. The situation was only saved when the Aztec tactfully pointed out that each piece was worth **two loads of gold**. (BNC) ({{ATTRIBUTE, S-T ABSTRACT}})
- c. The gold object weighs about eight kilos.
- d. What flavor soda pop? Strawberry, passion fruit! All flavors **two ounces of gold!** (MM-ENG) ({{ATTRIBUTE, S-T ABSTRACT}})
- e. This is **eight kg of gold**. ({{PREDICATE, S-T ABSTRACT}})

The use of amount phrases with standardized units of measure is entirely independent of the question of whether the noun quantified by them has, as a lexical element, denotata generally perceived as having a characteristic SHAPE or as a SUBSTANCE. It is also independent of the question of whether they tend to be ranked among the members of a class grammatically compatible with the COUNT paradigm (i.e. are "count nouns" in the grammatical sense of this term), or whether they rather are members of a class compatible with the MASS paradigm (cf. *5 kg of books*). Note that example (68) contains an indication that the gold found was in the form of nuggets. Gold is a fusible MATERIAL which when melted can only be perceived as an entity with a particular SHAPE if it is bounded by a CONTAINER. However, in most of the cases

where one talks about S-T CONCRETE manifestations of gold, it is not occurrences of melted gold that are talked about but gold in a characteristic SHAPE, i.e. in the form of nuggets, etc. in the case of its natural occurrence, or ingots, or gold processed as ARTIFACTS (gold coins, gold jewelry, gold medal).

With the exception of the sense of 'gold medal' (cf. further below), a precise specification of the amount of entities perceptible with a SHAPE in "direct fashion", i.e. by immediate connection of a numeral with a word form of *gold*, is not possible: one must either use a UNIT noun indicating the respective mode of appearance of the gold (as in *nuggets* → *five nuggets*) or, when the enumeration of these entities is communicatively irrelevant, a UNIT noun indicating the CONTAINER in which the gold is stored (i.e. a CONTAINER noun such as *bag* → *five bags of gold*) (cf. (70a)). Interestingly, an enumeration of the direct type would not seem to be possible with larger entities (such as jewelry, etc.) either. This has been confirmed by our corpus investigation. In the latter case a UNIT noun such as *piece* or a different dummy noun (such as *object*) is regularly used to link the numeral with *gold* (e.g. **five golds* in the sense of 'five gold exhibits in the museum'). We can also establish that standardized units of measure and other UNIT nouns, though they resemble each other syntactically, differ in that only the latter act as explicit SHAPE indicators. UNIT nouns and dummy nouns such as *object* are indispensable in the cases just mentioned not only in combination with numerals, but with all quantifiers exclusively restricted to COUNT contexts (i.e. also with *many* or with the interrogative quantifier *how many*). In other words, they establish the conditions required for quantification by members of the COUNT paradigm (cf. (70b, c)).

- (70) a. To the first he gave **five bags of gold**, to the second, two bags, and to the third, **one bag of gold**. (BNC)
 b. **How many bags of gold** did the master give to each of his three servants? (BNC)
 c. It is possible that a high-status tomb may yet be found entirely intact and that **many gold and silver objects** remain to be discovered by excavation. (BNC)

In (71) we can see a number of examples of vague amount specification by means of a fuzzy quantifier, partly with an exclusive MASS quantifier (*much*), partly with MASS/COUNT neutral quantifiers (such as *plenty of*, or more complex quantifying expressions such as *immense amount*, etc.). These are used without an explicitly SHAPE-indicating noun and independent of the question whether or not the gold occurrence under discussion is present in the form of distinctly perceivable entities (the context of the sentence in (71a) contains the implication that this is not the case). Note again the difference between the S-T CONCRETE uses in (71a, b, c) and the S-T ABSTRACT uses in (71d, e).

- (71) a. It explained why, earlier in the afternoon, he had espied a chest by the side of the track while riding through this benighted forest. Its top was invitingly open, displaying **much gold**. (BNC)
 b. **Considerable quantities of gold** were utilised in Kent. (BNC)
 c. **Plenty of gold**, no doubt, is still there. (BNC)
 d. Some of the men who took part in this, like Sir Walter Raleigh and his brother-in-law Sir Humphrey Gilbert, were also attracted by the idea of getting lands on the other side of the Atlantic, and the success of the Spaniards encouraged them in the

widespread **belief** that **an immense amount of gold and silver** was waiting to be discovered all over the Americas. (BNC)

- e. **A handful of gold** for some **could** mean plenty of dust for us all. (BNC)

Finally it has to be mentioned that quantifying bounding must not necessarily take place within the same phrase which contains a word form of *gold*. In (72a) we see an example of a slightly different type of specification of an amount of gold. This information is then stored in the file in which this specific amount of gold is established as a DISCOURSE REFERENT (cf. the reference to it with the phrase *that fabled but very real gold* in the last sentence in (72a)). In the (b) sentence in (72) the exact amount of gold can be inferred indirectly from the information about the price of the gold.

- (72) a. When Atahualpa offered **gold** as a ransom for his release Pizarro had asked, "**How much gold?**" "**This much,**" **the Inca reputedly replied, his arm indicating a line as high as he could reach. The room, twenty two feet long by seventeen feet wide, was to be filled once with gold** and twice over with silver within two months. Not much of **that fabled but very real gold** has survived. (BNC)
- b. It was announced on Jan. 22 that the United Kingdom was to return **gold worth £ 90,000,000 (US\$ 160 million)** which had been deposited at the Bank of England before the annexation of the Baltic states by the Soviet Union in 1940. (BNC)

3.2.2 Determination

The use of a definite article in combination with *gold* seems to be unrestrictedly possible. In all of the grammatical contexts where its use (or that of the demonstrative) is grammaticalized in English, it also appears with *gold*. In the first place, these are cases where a restrictive modification allows a sufficient identification of an entity as a DISCOURSE REFERENT, e.g. restrictive modification by means of a participial construction (cf. (73a)), a relative clause (cf. (73b, g)), or an adverbial (cf. (73c)). Also, in the case of a restriction by means of ordinal numbers, the definite article is expected to occur. Incidentally, this is possible only with reference to SORTS. Note that the reference to the SORT contrasted with *the first gold* in (73d) is made without the definite article (*metallic gold*) (cf. section 3.3). The example in (73e) illustrates a case of implicit restriction in an iterative (and thus S-T ABSTRACT) context (i.e. in each case the respective PIECE of gold which has a hallmark on it). Furthermore, we have repeatedly found the use of the definite article or a demonstrative (frequently in combination with the quantifier *all*) in the case of previous mention. For example, the gold referred to by the phrase *all this gold* in (73f) has been previously mentioned and plays a role as a DISCOURSE REFERENT in the story line. It should not go unmentioned, however, that in the case of prior mentions the introducing first mentions are constructed as NON-DISCOURSE REFERENTS (*restore something in gold* → *the gold...*, i.e. 'the gold that was restored', etc.). An example of this type we can see in (73h) (*were ... of gold* → *the gold...* that (seemingly) constituted the material of the windows). Finally, a note should be made on (73g): what is interesting here is the fact that the referent of the subject restricted by the relative clause is equated with an entity with obvious SHAPE properties (*wrist watch*).

- (73) a. **The gold used by the Minoan smiths to make all these fine objects** was imported from the Egyptian gold mines in Sinai, from the Arabian desert and from Anatolia. (BNC)
- b. I'll pay you one percent of all the gold we find on the moon! (MM-ENG)
- c. If we beagle boys had **the gold in that moon**, we wouldn't need to steal from Scrooge McDuck! (MM-ENG)
- d. "Ears of grain were called apples of gold, which must have been **the first gold** in the world while **metallic gold** was unknown... (BNC)
- e. The hallmark indicates **that gold** has been tested for quality at one of the UK's four Assay Offices and is your safeguard that **the gold** is of a legal standard of purity. (BNC)
- f. I knew **all this gold** was sacred and indispensable to our mission. (BNC)
- g. Here's **all the gold** I could find - a wrist watch that must have been washed along by the water! (MM-ENG)
- h. This was a book of fables, most of them pointing in the inevitable direction; the title story told, with some charm, of a little boy who saw from a hillside while out walking a house whose **windows were all of gold**. He searched for this wonderful house, but could not find it, and was returning home disappointed when he realized that the house was his own house, and that **the gold** was merely the reflection of the sun. (BNC)

Marking of possession by means of possessive pronouns is likewise generally possible. As all the other definite nominal phrases discussed, phrases with possessive pronouns do not contain any implication about the form in which the gold referred to appears. In (74a) it emerges indirectly from the sentence context that we are probably dealing with unprocessed gold (not with jewelry, gold coins, etc.). In (74c) we find explicit mention of the fact that the gold possessed has the form of *little ingots* (rather than that of coins), while this remains open in (74b) (cf. also (83a) for the discussion of an example where *gold* in combination with a possessive pronoun has the interpretation of 'jewelry'). The use of a possessive pronoun often has overtones of a metaphorical interpretation of gold in the sense of 'wealth'. The last example (74) demonstrates the use of a relative possessive.

- (74) a. My wife Jeannie, however, makes jewellery and has made some lovely bits and pieces **from my gold** (mind you, she is a perfectly capable panner and often finds her own!). (BNC)
- b. We have **our gold**, stored in a second belt beneath our shirt, and tugging heavily on our nethers. (BNC)
- c. Then, after the old guy has examined, weighed and wrapped **it** in a turquoise napkin, we get **our gold, in little ingots** the size of collar studs. (BNC)
- d. Much has come to him from his father, and more still he has set by himself, for he is of a low nature and hoards **his gold** rather than spend **it**. (SH)
- e. Since the Minister is so concerned about the gold belonging to the Baltic states, will he see justice done for the poorest country in Europe, Albania, **whose gold** is in the Bank of England and was stolen from that country four decades ago? (BNC)

A specific type of the combination of quantification and determination is instantiated by constructions in which a fuzzy quantifier (e.g. a MASS quantifier such as *much*) is "partitive-

like" connected with a definite NP, i.e. the latter is linked to the former in the form of an *of*-PP as syntactic modifier) (cf. by contrast the *all the.../all this...* phrases in (73f, g)). The same factors are responsible here for the definite marking as mentioned above: in particular, restriction by means of a relative clause, a participial construction, etc., but also prior mention (cf. (75), (72a)).

- (75) a. The ancestors of those who now process with marching bands, once crouched in rows panning the streams under the eye of armed guards. **Much of the gold dug by the slaves** went back to Portugal. (BNC)
- b. There is the fact that the very rocks on which we live — no matterwhere [sic!] — may have originated through volcanism; that **much of the gold and many of the other economic minerals that we use every day** are linked with volcanic activity; (BNC)

Finally, we would like to point to the possibility of the combination of *gold* with an indefinite determiner (e.g. *such*) (cf. (76)). Indefinite determiners - like ordinal numbers (cf. above) - are by nature confined to SORT uses. It comes as no surprise therefore that they permit anaphorical resumption by means of the definite pronoun *it*.

- (76) The near absence of true hoards (deposits of coin or metalwork in the ground not associated with burial) in early Anglo-Saxon England until the seventh century may be taken as an important indication both of the role of hoarding in other societies and of the economic organisation of this period. **Such gold** is an important development in **its** use as primitive money, the first uniform commodity used in the payment of taxes and fines. In this way **it** is also an important indication of the growing powers and organisation of leaders and the kingdom states. In the seventh century gold coin was actually minted in England at Canterbury and London. (BNC)

3.2.3 Gold UNITS

It could be assumed that UNIT nouns which specify the appearance of gold (PIECE nouns) or which specify the CONTAINER in which gold is stored (CONTAINER nouns) are chiefly confined to the combination with numerals or with exclusive COUNT quantifiers, the more so since, as we have seen, the question of SHAPE is not necessarily salient in the definite contexts. This is not the case, however. The fact that UNIT nouns are indispensable in enumeration and not frequently attested in definite contexts because of lack of salience does not allow any conclusions with respect to other indefinite contexts. The information about the mode of appearance of *gold* may be relevant independent of quantification (as, e.g. in (77a)). It is remarkable that bare plural expressions such as *crocks of gold* or *bags of gold* are frequently encountered even in cases where the sentence context implies an S-T ABSTRACT interpretation (for example in the case of the habitual context in (77b)), or when it is certain that they are not to be understood as candidates for future DISCOURSE REFERENTS (cf. (78a)). In contrast to these, the PPs *with a bag* in (78a), which are constructed as ATTRIBUTES, could awaken the expectation that new DISCOURSE REFERENTS are introduced by them, as long as the sentences are looked upon in isolation. This expectation is not necessarily satisfied, and

particularly sentence (78b) is also meaningful in an interpretation where *a bag of gold* would be ranked as "non-referential" in the sense of Du Bois (1980).

- (77) a. Etruscan goldsmiths used **minute granules of gold**. ... The use of conventional solders to attach **minute granules of gold** presented great difficulties to the goldsmith who had to keep them in position during soldering and avoid flooding the delicate work with solder. (BNC)
- b. Leprechauns are extremely wealthy and hide **crocks of gold** and jewels about the countryside. (BNC)
- (78) a. Many of the human victims clearly left their homes feeling full of optimism, carrying **bags of gold**, pieces of jewellery and other valued objects, which they refused to abandon even at the point of death. (BNC)
- b. Apparently a hooded stranger **with a bag of gold** had asked if he could stay at her house one night. (BNC)
- c. The Emperor, to his credit, did not press the point, but presented Gambo **with a bag of gold** for his part in the battle and quietly departed. (BNC)

3.2.4 Gold Coins

In combination with *gold* the noun *coin* constitutes quite a particular type of UNIT noun. Gold coins are not natural occurrences of gold, but ARTIFACTS made of gold. At the same time they constitute a mode of appearance typical of our times, or, as the speaker in example (79) says: "we think of gold in the form of coins". When dictionaries give grammatical information about the behavior of nouns in terms of MASS vs. COUNT nouns (like LDOCE), *coin* ('a piece of metal') is normally marked as a COUNT noun. This is confirmed by the fact that the vast majority of indefinite and unquantified occurrences of *coin* modified by *gold* are found in the bare plural (cf. (79a)). In our corpus investigation we have also come across tokens of *gold coin* constructed as an ATTRIBUTE in singular form. In our analysis this is a signal of a QUALITY interpretation (cf. *the distribution of ... gold coin* in (79b)). Example (79c) shows in addition that *gold coins* can be referred to simply by a definite NP headed by *gold* alone (rather than by *coin*), after having been introduced as DISCOURSE REFERENTS.

- (79) a. Rarity, the quality of the design, historical associations and, particularly, melt value all determine the market value **of gold coins**. ... In our collective folk memory— or possibly as a result of seeing too many old Hollywood movies — we think **of gold in the form of coins** as eminently portable in times of national emergency. (BNC)
- b. ... the possibility that **the gold coins found** in Sutton Hoo mound 1 were a royal weight standard has been suggested (Spratling 1980). **The distribution of the balances and gold coin mirrors** the areas in which goldworking was most common. (BNC)
- c. He showed this to me and told me to note especially the inscription on **the coin's** obverse side: "O.A. Paykhull cast **this gold** by chemical art at Stockholm, 1706." (BNC)

3.2.5 Gold Bullion and Gold Leaf

A case different from *gold coin(s)* is represented by the expressions *gold bullion* and *gold leaf*. They too provide information about the mode of appearance of gold ('gold cast in bars' and 'gold beaten in thin sheets'). However, in the normal interpretation of these complex expressions the syntactic heads *bullion* and *leaf* do not serve to render reference to distinctly perceivable gold entities with a SHAPE (i.e. bars and sheets of gold) possible. Rather, they achieve a semantic modification of *gold*, which is mirrored in the grammatical behavior of *gold bullion/gold leaf*. They behave like prototypical MASS nouns with respect to their compatibility with quantifiers and number values (cf. examples (80) and (81)). In this regard, sentence (80e), in which *gold* and *bullion* even occur co-ordinated with one another, and sentence (81b), in which *gold leaf* as a whole forms the syntactic modifier of *any pieces*, i.e. of a phrase based on a UNIT noun, deserve special attention. It could be added that certain languages in their translations of *gold bullion* and *gold leaf*, in the interpretation just discussed, construct the equivalent of *gold* as the syntactic head (GERM: *Barrengold* in opposition to *zwei Goldbarren* or *zwei Barren Gold* ('two bars of gold'); HUNG: *rúdarany* in opposition to *zwei két arany rúd* ('two bars of gold')).³⁵

- (80) a. It is difficult to understand the function of gold in early Anglo-Saxon society in much greater detail. Certainly **gold, as bullion**, is a practical means of storing wealth. (BNC)
- b. ...and **the price of gold bullion** on the exchange remains a sensitive index of confidence in the international market. (BNC)
- c. World Security & Communications specialized in the safe movement of high-risk cargoes — **gold bullion**, old-master paintings, large consignments of banknotes. (BNC)
- d. For Kitson what was produced, and not the **amount of gold bullion**, defined the wealth of the nation, (BNC)
- e. Merchants came to St Paul's and walked up and down, thumbs pushed into their belts, looking **for gold and bullion** to invest in their ventures: wool to Flanders, wine from Gascony, wood to Italy, silks and costly fabrics from Venice and the mills of Florence. (BNC)
- (81) a. Some artists of the 16th and 17th centuries painted on gold ground and, more recently, Otto Dix, among others **used gold and silver leaf** without regard to the religious meaning of gold. (BNC)
- b. If **any pieces of gold leaf** have been chipped off to reveal the white base, there are various shades of gilt waxes which can be rubbed on with a soft cloth and then buffed up to a fine lustre. (BNC)
- c. Burnishing alone can **cause gold leaf** to adhere to a clean metal surface, but adhesives like egg white were also used. (BNC)

³⁵ LDOCE classifies *bullion* (there is no entry for *gold bullion*) with the meaning definition 'bars of gold or silver' as a MASS noun. *gold leaf* with the meaning definition 'gold which has been beaten into extremely thin sheets for use in decoration' and *leaf* (6th subentry, marked as "METAL") with the meaning definition 'metal, especially gold or silver, in a very thin sheet' are likewise classified as MASS nouns. This is confusing for *bullion*, since here the genus term (*bar*) is a noun which is classified in LDOCE itself as a COUNT noun.

- d. Unlike mercury-gilding, there is no positive analytical evidence which can **identify gold leaf**. (BNC)

3.2.6 Gold ARTIFACTS (PIECES of Jewelry, etc.)

It appears that the lexical family of *gold* has no established lexical unit based on the simple lexical form *gold* and having the sense 'piece of gold jewelry'. This also holds for other ARTIFACTS which can be made of gold, i.e. for different kinds of gold ornaments. This can be inferred from the fact that *gold* in this sense is typically combined with a UNIT noun (such as *piece*) or a similar dummy noun (such as *object*) in all contexts: in quantifying contexts (cf. (82a, b) below, the examples (57b) and (65b) in section 3.1, and (70c) in the context of the discussion of the circumstances under which a precise specification of the amount of the entities perceivable with a SHAPE is possible in "direct fashion"), in definite contexts (cf. (82c)) and indefinite contexts (cf. (82d)).

- (82) a. Among the grave goods were **140 pieces of gold jewellery**, which had originally adorned the corpse of an important woman, who may have been a queen or a high priestess. (BNC)
- b. There are also **a number of gold and silver pieces** from the cathedral treasury. (BNC)
- c. And look this, this room, you've got the it was all like this, **all gold filigree**, it was all over. (BNC)
- d. One example of this is a black inlay material known as niello, which is found **on gold, silver, bronze and brass items** from as far apart as first-century AD Rome and nineteenth-century AD Moscow, ninth-century AD Persia and thirteenth-century AD England (fig. 5.16). (BNC)

There are some isolated attestations of *gold* in combination with a possessive having the interpretation of 'jewelry' (cf. (83a)). There is, however, a type of counterexample which deserves special attention. The examples in (83b, c, d) are relevant here. *Gold* is here constructed as a constituent of a MASS phrase and has the interpretation of 'pieces of jewelry'. Interestingly, all of these examples show a certain semantic effect, namely the "grinding" effect, which is obtained when a grammatically COUNT noun, whose default association it that with a SHAPE conceptualization, appears in a MASS environment in a sentence (e.g. *much book*). However, according to the standard opinion this effect should not arise when a MASS noun (which *gold* is generally thought to be) constitutes the head of a MASS phrase. Or else, for this effect to come about, there should exist a conventionalized lexical unit within the family of *gold* which is classified as a COUNT noun. The examples in (83b, c, d) thus permit two different analyses: they could either be considered as sufficient evidence for the existence of a conventionalized lexical unit *gold* in the sense 'piece of gold jewelry'. Alternatively, one could conclude that the emergence of the well-known "grinding" effects does not depend on the lexically fixed potential of distribution (i.e. on the lexical status of a noun as MASS or COUNT), but on the question of whether or not the realizations of lexical elements in the sentence receive a SHAPE interpretation on the basis of the entire contextual information. In view of the above-mentioned fact that UNIT nouns normally are necessary companions of *gold* in the sense in question, the second analysis seems to be the more adequate one.

- (83) a. Take good care **of your gold**, a little loving care and attention will keep **your jewellery** looking its very best. (BNC)
 b. Even in this violet light his skin gleams coppery. There is **much gold** about his person, **in the form of anklets and wristlets**, but otherwise he is naked except for a leopardskin loincloth (BNC).
 c. There are other, safer ways of looking glamorous or attractive and **lots of gold** on display is a powerful temptation to thieves or muggers. (BNC)
 d. We all know about Agassi and his paintshop clothes, his tinted hair and **gold** around his neck. (BNC)

3.2.7 Gold ARTIFACTS (Medal)

A different result with respect to the question of lexicalization emerges from the examination of corpus tokens with *gold* in the sense of 'medal'. The complex construction, in which *gold* appears as a modifier of *medal* (cf. (84a, b)), alternates in the corpus throughout with a simplex construction. An elliptical analysis of the latter seems to be adequate only in a restricted number of cases (as, for instance, in *one silver* in (84b)). Otherwise, *gold* readily appears in this sense in all grammatical COUNT environments: it admits the formation of a plural and it is directly combined with ordinal and cardinal numerals and exclusively COUNT quantifiers (cf. (84c-f)).

- (84) a. Redgrave has already won **two gold medals** and will become Britain's most successful current Olympic sportsman if he wins his third. (BNC)
 b. For the trio to collect **two gold medals and one silver** was an unprecedented Scottish haul on the world stage which can only augur well for the highlight of this year's outdoor season — the World Athletics Championships in Stuttgart. (BNC)
 c. But each of their small squad of 12 won at least one medal in their final count of **16 golds, 13 silvers and nine bronzes** the first time this has happened. (BNC)
 d. **How many golds** did we win overall? (BNC)
 e. There have been great deeds in Barcelona, like that **eighth athletics gold** for Carl Lewis, the hurdles world record by Kevin Young, the three Kenyans who swept up the steeplechase medals. (BNC)
 f. The chief coach who led the British squad **to three swim golds** in the 1988 Seoul Games was bailed without charge. (BNC)

Furthermore, it is interesting to observe that *gold* in many expressions in which it is used in the interpretation of 'gold medal' may also inherit the grammatical behavior of the MATERIAL sense (as in *strike gold, be robbed of gold*; cf. (85a, b)). It is possible that this is a special stylistic means used in the context of sport reports to awaken associations with the literal interpretation. As such, however, this stylistic effect has probably become possible only after the ARTIFACT interpretation had been stabilized as a lexically established sense. Example (85c) represents an interesting passage, in which almost all of the potential grammatical uses of *gold* in the sense 'medal' are gathered (cf. particularly the occurrence of *get silver* and *get a gold side by side*).

- (85) a. Tessa, the 36-year-old from Wolverhampton who **struck gold** in 1984 at Los Angeles, found her fifth Games no fun at all. (BNC)
- b. The Welsh star was edged out by just two-hundredths of a second by his best friend Mark McKoy — but could have been forgiven for feeling he had been **robbed of gold** after the Canadian had seemed to get away to a false start. (BNC)
- c. And they're all about to **do their silver**. One of the somewhat older guy, he can orchestrate it so much sothat he **gets his gold** out of it. Out in in he he's **going straight to gold** is he? No he's **done bronze and silver**. Oh he's done them yeah. And he if the rest of them **get silver**, he will **get a gold**. It's rather rather good actually. It's a form of team leadership (BNC)

3.2.8 Gold COLOR

There is a COLOR sense of gold, where *gold* is used as an abstract noun (cf. (86)). In English there is a systematic sense extension producing COLOR interpretations for names of MATERIALS. Nevertheless we believe that a conventionalization is already achieved here as well, with the result that an established lexical unit with the lexical form *gold* and the sense 'gold color' has been added to the lexical family of *gold*. In most of the cases where *gold* appears as a syntactic modifier of expressions such as *shades*, *colors*, etc., we are dealing with this COLOR sense (cf. (86a-c)). Sentence (86d) shows that *gold* may also have *shades* in the MATERIAL sense; however, *shade* is here typically constructed in the singular (*the shade*), whereas always (*different*) *shades* are talked about in the examples of the COLOR sense.

- (86) a. "They've a very fine church here," said Christopher, "painted in **shades of gold**. (BNC)
- b. It was a fine warm autumn evening and although the light was already dying out of the sky the trees still looked magnificent, **shades of gold and red** blending with some still-green foliage. (BNC)
- c. The greatest surprise, however, was lot 187, the 3½ foot, 784-ounce Tiffany presentation piece, made for a builder of a South American railroad, and modelled in the round, with figures of peons and an allegory of America, parcel-gilt **in three different colours of gold**. (BNC)
- d. Check that **the shade of gold** really complements your skin, and hold earrings up to your face to check you are happy with the shape. (BNC)

The formation of plural forms is also possible with the COLOR sense. These are even preferred to singular forms to indicate the different manifestations (i.e. the different shades) of gold color (cf. (87)).

- (87) a. We will then travel by coach **through the golds and reds** of a New Hampshire autumn for the first of two nights at the Town and Country Inn, Gorham, north of Massachusetts. (BNC)
- b. We walk out this evening and the city is a fathomless well of deep toned reds and browns, **golds** and **a wonderful dusky orange**. (BNC)

- c. The trees were rich in autumnal glory, **the golds**, russets and **copper** contrasting strongly with the bottle-green of a belt of fir trees etched against the deep blue of the October sky. (BNC)
- d. Brunettes can choose smoky greys and khakis as well as browns, and blondes do not have to wear blues all the time, even with blue eyes. Why not **green**, or even **pinks** and **golds**? (BNC)

Whereas in these two senses mentioned last (the ARTIFACT sense as 'medal' and the COLOR sense) plural forms are amply attested, we have found a single token of a plural form in a different interpretation. In this case *golds* is used in the sense of a SORT. We will come back to this in the course of our discussion of SORTS toward the end of the next section.

3.3 *Gold* from PREDICATE to Generic DISCOURSE REFERENTS

In section 2.3.2 we said that there is a clear affinity between generic subjects constituting the TOPIC of a generic PREDICATION and nominal PREDICATES ascribing a property to a TOPIC, i.e. nominal PREDICATES in ascriptive sentences. At least in the case of nouns such as *gold*, both attest the values {S-T ABSTRACT, QUALITY}. In addition, we advanced the hypothesis that the essential difference between a use of *gold* as a generic TOPIC and its use as an ascriptive PREDICATE resides in the fact that *gold* appears as a DISCOURSE REFERENT in the first and only in the first case. In this section, we will try to draw the bow between these two uses of *gold*. We will start from the discussion of regular predicative uses and will then turn to "secondary predicates". Thereafter, we will address constructions with the Propositional Function of ATTRIBUTES, which are likewise strongly committed to a "non-specific" interpretation. As a next step, we will deal with sentence contexts in which the "existence" of *gold* plays a role (existential constructions in the narrower sense, contexts of *find* and *search*, etc.). From there we will draw a line via sentence contexts which are grammatically and lexically relatively neutral with respect to the values on our dimensions and will finally arrive at generic uses.

3.3.1 *Gold* as "Primary PREDICATE"

The following constellations typically occur when *gold* appears as a constituent of an ascriptive PREDICATE:

- (a) The TOPIC (i.e. the subject of the ascriptive PREDICATION) is realized by a deictic or an anaphorical pronoun referring to the portion of the MATERIAL established in some way in the discourse. The PREDICATE expresses that this portion of MATERIAL has or does not have the property of representing a certain kind of MATERIAL (cf. (88a)).
- (b) The TOPIC is realized as in (a) by a deictic or anaphorical pronoun; it can, however, be simultaneously or exclusively understood as reference to a specific SORT. By means of the PREDICATE, a further specification of the MATERIAL is achieved (cf. (89)).

- (c) The TOPIC marks a hypothetical entity equipped with a certain property indicated within the TOPIC construction. The PREDICATE expresses that any entity having this TOPICAL property simultaneously has the property named by the predicate nominal (cf. (90)).
- (d) The TOPIC refers to an ARTIFACT, and the PREDICATE ascribes to this ARTIFACT the CONSTITUTIVE property of consisting of the MATERIAL named by the predicate nominal (cf. (91)).
- (88) a. This is **gold**.
 b. This, honey, is **gold dust**. (BNC)
 c. And it's **not gold** from old coins, either - it's **too pure!** (e.g. the gold that has just been found) (MM-ENG)
- (89) Twenty-four carat solid gold! That's **pure gold!** (MM-ENG)
- (90) a. If it truly **looks like gold** it most probably **is gold**. (BNC)
 b. All **is not gold** that glitters. (MM-ENG)
- (91) a. If this watch **is gold**... (MM-ENG), This watch **is gold?** (BNC)
 b. His armor **was solid gold**. (MM-ENG)
 c. Your finger ring dates to the 15th century and **is gold on silver**. (BNC)

In the constellation described in (a) the TOPIC is normally S-T CONCRETE (disregarding hypothetical contexts, etc.). An example such as (88a), in which a positive assertion is made and *gold* appears as a bare form after the copula (neither modified by an adjective nor as a modifier as in (88b)), is not attested in our corpora. In the PREDICATION of type (b) the double connection of SORT uses to S-T ABSTRACT and S-T CONCRETE values on the dimension of Spatio-Temporal Location discussed in 2.3.3 becomes evident. The two sentences in (89) are uttered in a situation where gold has just been found and this portion of gold is immediately present. The first sentence could be seen as an elliptical variant of PREDICATION type (a). The second sentence, in turn, can be understood as a simultaneous statement about the gold in question and about the SORT "twenty-four carat solid gold", i.e. the PREDICATION can be interpreted as a further ascription of a property to the MATERIAL found and at the same time as an explication of the SORT mentioned in the first sentence in terms of a different designation. (That *pure gold* is an established designation for a specific SORT of *gold* is proved by sentences in which this expression itself constitutes the TOPIC of a generic PREDICATION (cf. (126a) below).

In contrast to (a) and (b) the TOPIC of the type (c) PREDICATION is by nature S-T ABSTRACT and appears in conjunction with *gold* without adjectival or other modification both in positive and in negative assertions. English is exceptional in that it tolerates the (d) constellation and thus sentences such as that in (91). Many languages (e.g. German and Dutch) in which morphologically non-derived forms in the sense of CONSTITUTIVE properties can be used in the prenominal position (in this context it is unimportant whether they appear as morphologically/intonationally integrated modifiers or as loosely conjoined ones) do not allow a corresponding predicative use, but require "partitive" or other (e.g. adjectival) constructions. Before dwelling upon this interesting point, we should mention for the sake of completeness that there are further, albeit marginal, ascriptive-predicative uses of *gold* in

addition to the constellations so far described. Metaphorical uses such as those illustrated in (92) belong here, as well as those in which "being gold" constitutes the identifying property for a hypothetical entity of the kind *anything that's gold* (cf. (93)).

(92) I was helping Uncle Sam to make dollars. Maybe mine **were not as good gold** as his, but they looked as well and were cheaper to make. (SH)

(93) This magnetic head points to **anything that's gold**. (MM-ENG)

Exactly as within the NP (cf. p. 49f. above), there is variation between three constructions also on the highest level of clause structure: the bare form (without a preposition) in the predicate position, which corresponds to the prenominal variant within the NP and was illustrated here by (91), alternates with a prepositional construction (cf. (94)) and a construction extended by a past participle (cf. (95)). The three constructions do not seem to be completely interchangeable, though we were unable to confirm certain well-grounded hypotheses about their distribution: for example, the hypothesis that the choice of one construction over the other may be exclusively determined by the question of whether the referent of the TOPIC consists completely or only partially of gold. Yet, certain weak tendencies become visible, for example with respect to factors influencing the choice of the preposition (cf. the contrastive character of *in vis-à-vis of* in (94b)). Furthermore, it is probably significant that with ANIMATE subjects - in contrast to their body parts - the prepositional construction is used even in the fictional context of a dream rather than the simple predicate nominal (cf. (95b)).

(94) a. This was a book of fables, most of them pointing in the inevitable direction; the title story told, with some charm, of a little boy who saw from a hillside while out walking a house whose windows **were all of gold**. (BNC)

b. That which was in **gold** and silver he kept by him in the vaults of his palace, but the most precious stones and the choicest pearls that he had he put in an iron box and... (SH)

(95) a. In addition all the plate, ornaments and utensils of the temple **were made of gold**, including even the implements used in tilling the temple gardens. (BNC)

b. Two wheels, round and round, he couldn't take his eyes away, and this time it'd be like worship, I dreamed that we **were made of gold**, he'd seen too much, his eyes were gold, they'd have to melt them down. (BNC)

Rigter (1986), in a detailed discussion of this problem of variation, attempts to explain the difference between the (a) and (b) sentences in (96) in terms of the SHAPE/SUBSTANCE distinction. The innovative aspect of Rigter's proposal is his idea to reject the treatment of constructions such as (96a), which are possible in English but not in Dutch, in terms of a double categorization of the MATERIAL-denoting nouns in the predicate position (e.g. *stone* in (96)). Recall that the double categorization of nouns such as *stone* or *gold* as N and ADJ with respect to their occurrences as modifiers in the NP is the most prominent traditional strategy. On the basis of this strategy (which we also reject) one would have to argue that *stone* in (96a) realizes a (lexical) adjective.

(96) a. The wall is stone. (Rigter 1986: 285)

- b. The wall is of stone. (Rigter 1986: 285)
 c. This soup is of fish-heads, that of vegetables. (Rigter 1986: 291)

Rigter proposes a different strategy in that he recognizes a semantic variation in the subject as a correlate to the constructional variation. He argues that the two linguistic options in (96a) and (96b) correlate with a complementary SHAPE/SUBSTANCE conceptualization of the referent of the subject NP (1986: 285):

When the NP in the predicate of such sentences designates the substance that constitutes the referent of the subject, the choice of the nominal predicate correlates with a substance conceptualization, and the choice of the prepositional phrase with a shape conceptualization of the referent of that subject.

This can be seen in the representation in (97) adopted from Rigter (1986: 297), where the indexes after "s" in the parentheses indicate the (non-)identity of "substance" (this is to say, the respective type of MATERIAL). The (a) and (b) sentences in (96) correspond to the schemata (97a) and (97b) respectively. (96c) is, according to Rigter, an "ingredient reading", where, as seen in (97c), the predicatively expressed "substance" is a part (an ingredient) of the "substance" expressed by the subject, rather than being identical with it.

- | | | | |
|---------|---------------|----|----------------------|
| (97) a. | nominal | be | nominal |
| | SUBSTANCE(s1) | | SUBSTANCE(s1) |
| b. | nominal | be | prepositional phrase |
| | SHAPE(s1) | | SUBSTANCE(s1) |
| c. | nominal | be | prepositional phrase |
| | SUBSTANCE(s1) | | SUBSTANCE(s2) |

This approach is attractive for one important reason. It comes close to the intuition that the constructional change does in fact effect a shift of perspective: the construction without a preposition somehow foregrounds (or highlights) the constituting MATERIAL of the entity construed as subject (TOPIC), i.e. the SUBSTANCE aspect, while the prepositional construction foregrounds (or highlights) its form, i.e. the SHAPE aspect. This is quite understandable since both aspects are equally salient in ARTIFACTS. This would also explain the oddness of the construction without a preposition with HUMAN subjects. There is, however, one problem with this solution, namely that the putative shift of perspective cannot easily be proved, at least in English. In those texts in which an ARTIFACT is repeatedly said to be of gold or not of gold (cf. (98)), this does not seem to have any impact on the use of pronouns. Definite pronouns in the subsequent passages of the text do not refer to the MATERIAL as such, but continue to refer to the OBJECT consisting of the MATERIAL in question. This is particularly evident in (98b), but also in the last *it* in (98a).

- (98) a. Daisy: I think I'll have you test this **ring** your uncle Donald gave me! **It** always turns my finger green!; Huey/Dewey/Louie (with their "gold-finder" in the hand): Swell, Daisy! We can soon tell you. If **it's** gold. ... The machine turned its head away and hissed.; Daisy: Does that mean the **ring** isn't gold?; Huey/Dewey/Louie: Worse! **It** isn't even brass! (MM-ENG)
 b. **It** was gold; Henry had polished **it** up and found the special marks on **it**. (BNC)

We think that further investigations are necessary in this area, particularly in view of the fact that English is not the only language showing this kind of variation. Among others, it also occurs in Egyptian Arabic (cf. 4.4), where the conditions are still less clear than in English. We will therefore confine ourselves to these remarks and leave the problem to future research.

To conclude the discussion of *gold* as a "primary predicate", a final example will be presented here, which demonstrates an equative/identifying PREDICATION. The expression *French gold* (cf. (99)) really designates a DISCOURSE REFERENT, albeit only in the world of the first speaker (and presumably in that of his colleagues), which does not yet exist in the discourse register of the second speaker by the time the dialogue in question takes place. Note that the expression *French* does not name a distinct and generally identifiable SORT of gold, but a certain portion of gold owned by the first speaker.

(99) "It is **our French gold**," whispered the director. "We have had several warnings that an attempt might be made **upon it**."

"Your French gold?"

"Yes. We had occasion some months ago to strengthen our resources and borrowed for that purpose 30,000 napoleons from the Bank of France. ... (SH)

3.3.2 *Gold* as "Secondary PREDICATE"

The analysis of corpus tokens in which *gold* is constructed as a "secondary predicate" yielded interesting results. These are illustrated in the examples in (100) from the MM-ENG corpus, which contain *turn* (transitive or intransitive) *to/into gold*. In almost all of the examples we find a conditional or a future context such that *gold* almost always bears the value of S-T ABSTRACT (cf. (100b-f)). An exception is (100a). It has to be remarked that on the panel on which this sentence is uttered a tray is shown in its characteristic SHAPE (i.e. the tray has not been turned to gold dust or anything like that). This sentence with a "secondary predicate" thus constitutes the counterpart to the sentences with a "primary predicate" given in (91), in which the TOPIC was said to refer to ARTIFACTS and the PREDICATE was said to ascribe to this ARTIFACT a CONSTITUTIVE property (i.e. the property of consisting of a certain MATERIAL). Something similar can be stated for the *tin lantern* in (100g); here it has to be added that CHANGE-OF-STATE verbs combined with *gold* as a "secondary predicate", if they do not appear in a future or conditional context, are preferably constructed as resultant STATES without a finite verb, i.e. as free participles (as in (100g)) or as modifying participles within NPs).

(100) a. My goodness! The tray and all the silver has been turned **to gold**. (MM-ENG) (The service is shown on the panel!)

b. The philosopher's stone was something that the ancient alchemists thought would turn base metal **into gold**! (MM-ENG)

c. I'll turn my old brass glasses **into gold**! (MM-ENG)

d. I'm going to stay here until I turn everything in the place **into gold**. (MM-ENG)

e. Suppose I had turned **to gold**! (MM-ENG)

f. The fission from the stone will turn him **to gold** if he handles it long enough! (MM-ENG)

g. That tin lantern - turned **to gold**! (MM-ENG)

3.3.3 *Gold* in Constructions of Comparison and in the Scope of Negation

Constructions of comparison constitute an interesting subject for cross-linguistic studies. If languages make a distinction in the marking of generic DISCOURSE REFERENTS and unbounded (undetermined and unquantified) but spatio-temporally existing entities, they often show a tendency toward the exclusive selection of one of these devices to mark the standard of comparison. For instance, Arabic uses the same device as for the marking of "prototypical" generic NPs (cf. 4.4). Furthermore, languages may also exhibit variation in the form of alternative constructions (as Modern Greek, which normally uses the undetermined form but may also use the definite article in generic function depending on stylistic options).

In English, nouns such as *gold* (in the MATERIAL sense) are used in both cases in the bare singular, to be precise, in the generic case almost exclusively (cf. below), in constructions of comparison exclusively. In (101) we can see some examples of the use of *gold* in a construction of comparison as *as/like...* without an adjectival modifier. In these and similar examples either the assertion is made that something shows the properties of the MATERIAL gold (something *burns/glows/gleams/glitters/looks like gold*, etc.) or that something is treated like gold, i.e. like something very valuable (something *is craved/prized*, etc. *like gold*) (cf. (101a, c)). In the second case passive constructions prevail, although active expressions are also attested (e.g. someone *treats* someone *like gold*) (cf. (101d)). It should also be mentioned that comparisons with *gold* are frequently parts of a larger metaphor (cf. (101b)) and that a great many of usualized phraseologisms are encountered in this area (for example, the stereotype that the sun *glitters like gold*).

- (101) a. Her fine red hair **glittered like gold** in the watery sunlight. (BNC)
 b. Between these two ridges the fire of the sunset falls along the trough of the sea, dyeing it with an awful but glorious light, the intense and lurid splendour which **burns like gold**, and bathes like blood. (BNC)
 c. In a league dominated by a restricted number of Canadian imports, home grown talent **is craved like gold**. (BNC)
 d. Hugh and Elizabeth became great friends and he **treated her like gold** (BNC).

In (102) we see further examples where *gold* occupies the position of the standard of comparison. In these cases it is restricted to a specific type of gold. This can be achieved: by means of a prenominal adjective/participle (*glows/rolls (out of...) like liquid gold, looks/shines like burnished gold, shines/glints like molten gold, shines like pale gold, glows like well-worn gold, gleams like oiled gold, spills like spun gold, glitters and shimmers like real gold*) (cf. (102a)) or by means of a more complex construction such as a postnominal participial construction or a relative clause (cf. (102b)). Interestingly enough, reference is often made in a construction of comparison to the modes of appearance of *gold* as well (*is like hammered gold leaf, are like gold dust/like pieces of gold, like mancus of purest gold*) (cf. (102c)).

- (102) a. His dark limbs **gleamed like oiled gold** beneath the faded bermudas and T-shirt. (BNC)

- b. Here, too, were knick-knacks and glossy magazines stolen from some of the other rooms: a leather belt with a carved brass buckle that **shone like gold when polished with a cloth**, a brooch set with brilliant red and yellow stones, an airman's badge, a pen-knife, a fountain pen. (BNC)
- c. "Is there anyone there?" he called softly. No sound, nothing but the gentle flurry of leaves as the wind lifted and scattered them **like pieces of gold** across the grass. (BNC)

The examples discussed so far were predominantly embedded in an S-T CONCRETE sentence context or, more precisely, in all of the examples spatio-temporally localizable entities were compared with *gold*. Next to these, those S-T ABSTRACT contexts are also worth attention in which, in a generic sentence, a generic TOPIC other than *gold* is compared with *gold* (cf. (103a)). Very frequently *gold* is also found in another construction likewise introduced by *like* or by *such as*, which is used for giving examples. Here it is the hyperonym that is constructed as a direct generic TOPIC, whereas *gold*, by virtue of being mentioned as an example, is indirectly ascribed the same characterizing properties as the TOPIC (cf. (103a)).

- (103) a. **Like gold itself, silver** ranked very much below jade in the estimation of the Chinese. (BNC)
- b. **Really soft metals like pure gold**, silver and base lead can easily be sheared in the hands. (BNC)
- c. European colonizers also sought **raw materials like gold**, diamonds and timber. (BNC)

In (104a-c) we find examples of constructions of comparison in which English uses the function word *than*. This appears in cases where the degree of difference in the intension of a certain QUALITY which is attributed both to the S-T ABSTRACT *gold* and another entity is indicated (i.e. after comparative adjectives; cf. (104a)), or in cases where the existence of entities other than *gold* is indicated. In the second case, the expressions *more than* and *other than* behave differently: the former, having *gold* in its scope, presupposes the existence of a specific quantity of gold, whereas the latter explicitly negates the existence of gold (cf. (104b, c)). This leads us to a number of further examples where *gold* is in the scope of negation, such as (104d-f). In section 2.3.2 we have made the assumption that this environment always implies the values of S-T ABSTRACT and NON-DISOURSE REFERENT. This is also the case when a certain quantity of the entity designated by the same lexical form is present or believed to be present in the same situation. For the *but* construction in a negative context (with the reading 'only'), this possibility is always given. For example, sentence (104e) is uttered in a situation where people point to the moon, which is believed to consist of gold. However, by *gold* in the expression *but gold* no reference is made to this specific gold. A remarkable typological feature of English consists in the fact that it possesses a negative determiner such as *any*, which has to be employed also in the negation of existence as in (104f).

- (104) a. But perhaps more importantly, other countries found dollars not just as good as gold, but **better than gold**, since they could earn interest on their dollar holdings. (BNC)
- b. Those gold mines had stolen **much more than gold** from Africa. (BNC)
- c. If this reduces the flake to a silver grey powder, then what you have is **something other than gold**; if not, then well done! (BNC)

- d. It won't point to any metal **but gold!**(MM-ENG)
- e. How could plants or animals live on **nothing but gold!**(MM-ENG)
- f. I haven't **any gold** to try it on, but I know it'll work!(MM-ENG)

3.3.4 *Gold in Existence Constructions*

The simplest way of asserting existence in English is the *there-is* construction. Unless the auxiliary is construed in a non-factual mood, this construction, when used with nouns which denote entities capable of localization in space and time, implies such a localization (cf. (105a, b, c)). In the discussion of this construction two points have to be emphasized. The first relates to its anaphorical properties. Given that this construction generally serves the introduction of new S-T CONCRETE DISCOURSE REFERENTS, it admits subsequent anaphorical reference by means of a definite pronoun. However, change to a generic use by means of a definite pronoun like *it* would not seem to be possible. That is, the mere naming of an entity in a *there-is* construction would not appear to generate an associative link to the corresponding generic concept. At least in our corpus search we found only examples where in such cases a lexical resumption of *gold* took place (as in (105a)). Any possible definite pronouns in the subsequent text were then to be interpreted as referring to the generic (i.e. S-T ABSTRACT) DISCOURSE REFERENT rather than to that introduced in the *there-is* construction (cf. also the lexical naming of generically used *gold* after sentences in which the S-T CONCRETE existence of *gold* was established by *Find* verbs in (106a)). The second point pertains to the observation that this construction is one of the few English constructions in which the bare singular is readily used in the position of a higher-level grammatical role (subject/direct object) in S-T CONCRETE contexts and in which we find no trace of the relatively typical tendency of English toward explicit quantification or determination (i.e. towards the use of a quantifier or an indefinite determiner such as *some*).

- (105) a. Mr Murphy also raised the issue of why Navan Resources wished to mine andalusite when it can be manufactured more cheaply than it can be mined: "Maybe because it is gold — **there is gold there** but the problem with **gold** is getting **it** out, because that is a very difficult process which involves the use of cyanide as a metal wash". (BNC)
- b. Even though **there is gold**, silver and cadmium, there just isn't enough to offset the cost of disassembly and melting down," says Omar Khalifa, Apple Computer Inc's manager of environmental technology. (BNC)
- c. **There's gold** here! (MM-ENG) (they are just finding gold)
- d. Well, **there must be gold** down there! (MM-ENG)

3.3.5 *Gold as Argument of Find and Search Verbs*

The arguments of *Find* and *Search* verbs exhibit an exactly opposite default association with the two values of the dimension of Spatio-Temporal Location: the former show an affinity to S-T CONCRETE, the latter an affinity to S-T ABSTRACT.

When comparing occurrences of *gold* in simple existence constructions with those in the environment of verbs such as *find*, *discover*, etc. in the corpora, one is struck by the observation that the latter show a stronger tendency toward explicit quantification. We have to distinguish two types of how the fact that gold was found somewhere can be reported in an episodic context (cf. (106a, c-f)). One may either use a "categorical" propositional structure to convey the information that someone (a specific agent) has come across the existence of gold somewhere. Or one may use athetic (i.e. monolithic) proposition to convey the new information that "gold has been found" somewhere, without naming the agent and in this passivized form (cf. (107)). It is categorical statements in which quantifying specifications are preferably made, even if these are of an "unprecise nature" (cf. above section 3.2) such as *found a lot of gold*, *found gold above normal limits*, etc. (cf. (106a, b)). The use of a bare singular here, as we can see it in (106c, d), appears to be comparatively untypical in the texts about gold-finding stories examined from the BNC and MM-ENG corpora. It is true, however, that specifications about the amount found can also be made outside the clause in which the discovery of gold is asserted. Moreover, this state of affairs is frequently reported in nominal rather than in verbal form (cf. (106d)). It should finally be pointed out that in episodic contexts information about the mode of appearance of the gold found is also frequently given (people *find gold coins*, *pieces of gold*, *a girdle of epithermal gold*, or it is said that *traces of gold have been/were found*, etc.) (cf. (106d), (107c)).

- (106) a. On the assumption that the equipment a hundred years ago was not as efficient at **finding gold** as today's modern machinery, he hired some plant and employed a geologist and **found a lot of gold** in those old spoil heaps — just at the time **gold** rose in value on the world markets. (BNC)
- b. In 1988 Meekatharra Minerals claimed it **found gold above normal limits** near Ballymoney, Co, Antrim. (BNC (GOLD-TEXT1; cf. Appendix A))
- c. Gold! Gold! The astronauts **found gold** on the moon! (MM-ENG)
- d. Other companies have also **discovered gold**. Rio Tinto Finance and Exploration, a subsidiary of Rio Tinto Zinc, announced in 1987 it **found gold** three miles west of Omagh, Co. Tyrone, while Ennex International said its provisional estimate of **300,000 ounces of gold in its find** in the Sperrin Mountains... (BNC (GOLD-TEXT1; cf. Appendix A))
- e. In March 1988 Glencar announced that it had **found deposits of gold**, estimating the reserves at £300 million. ... and Kilmacthomas **found primary gold traces** of nearly two ounces per tonne... (BNC (GOLD-TEXT1; cf. Appendix A))
- (107) a. In recent times the Irish Government faced a dilemma over the future of Croagh Patrick. **Gold was found there** and a full scale conservation row broke out as mining exploration started. (BNC)
- b. Serra Pelada ("Bald Mountain") is in the south eastern Amazon basin. **Gold was found** by chance - according to legend, a cowherd picked **a nugget** from a stream - in 1980. A goldrush began at once. (BNC)
- c. A small gossan of cavernous quartz with limonite and **traces of gold was found** at Bardon Hill in 1950 (King, 1967). (BNC)

Now *gold* as a direct object of *Find* verbs does, of course, not only occur in episodic contexts but also in a great variety of contexts which do not contain any implication about the S-T

CONCRETE existence of *gold*. In (108) we can see examples of its occurrence in "believe" contexts (in (108a, b)), in future contexts (in (108c); here, this interpretation is implied by the use of the progressive due to the ACHIEVEMENT semantics), and in contexts where the state of affairs of gold finding is not presented as a "tensed" EVENT at all (cf. (108c)). Example (108e) contains a generalizing statement, and the gold in (108f) is supposed to be found in a hypothetical world. The last two sentences in (108) constitute examples of negation. This context is generally characterized by the lack of a quantifying specification, though *some* and *any* are, of course, represented here as well (cf. (108a); cf. also the above discussion of the status of *any*).

- (108) a. I hope you **found some gold!** (BNC)
 b. Let me tell you — let me tell you —" she racked her brains "— about the time the twins thought **they'd found gold** in the creek on our farm. (BNC)
 c. We're **finding gold**, Daisy! (MM-ENG)
 d. We can get rich **finding gold!** (MM-ENG)
 e. So, lesson one is that where people **have found gold** in the past, that is where you **will find gold** in the future! (BNC)
 f. Around the world thoughts shall fly In the twinkling of an eye. Iron in the water shall float As easy as a wooden boat. **Gold shall be found, and found...** (BNC)
 g. "What I'm saying is, if **there ain't no gold to be found** then dig for something else. (BNC)
 h. ...the unfortunate Raleigh got himself out of the Tower by promising to find James 1 **a supply of gold** in Guiana, but he **found no gold** and he irritated the Spanish so much that they pushed James into having him executed in 1618 on the 1604 charge of treason. (BNC)

The examples in (109) show occurrences of *gold* in a definite phrase as a direct object of *find*, established by prior mention (in (a)) or by the ordinal number *first* (in (b)). Example (109a) is fairly interesting since it contains, in addition, two occurrences of the same *Search* verb (*looking for*); in the first occurrence the complement NP *that gold* points to the already established DISCOURSE REFERENT; in the second occurrence the complement NP *gold* (this time constructed without a determiner) has an S-T ABSTRACT interpretation and does not have the function of introducing a new DISCOURSE REFERENT. The second example is of interest as well for the following reason: in the first mention an explicit indication is given with respect to the SHAPE of the gold found (*piece of gold*). After that the expressions *the... gold* and *the nugget* alternate with one another. As a whole, the information that it is a PIECE of gold is doubtlessly relevant in this text passage. The fact that nonetheless a definite reference to this PIECE can be made by simply uttering *the... gold* (with *gold* as a head) strengthens our hypothesis that definite environments not only constitute grammatically neutral contexts with respect to the MASS/COUNT paradigm, but are also tendentially neutral with respect to the SHAPE/SUBSTANCE distinction on the dimension of Form.

- (109) a. The fellah with the goldmine isn't necessarily the best miner around but he's the fellah who **found the gold**, and good luck to him. Mind you, I don't say you can't make luck sometimes. Oh yes. That fellah who **found the gold**, well, chances are he was **looking for that gold**. Maybe he was the fellah who was prepared to go **looking for gold** in the hills that the mine expert said weren't worth touching. (BNC)

- b. I was so excited **by the first decent piece of gold ever found**, that a test I once read about came into mind. I took a pin and pushed it **into the nugget**. What should have happened is that **the soft, natural gold** would be spiked by the pin— what actually happened was that **the nugget** was pinged out into the river like a tiddly wink. (BNC)

In (110) we find a beautiful minimal pair, in which the grammatical instances of *gold* constitute the argument of a nominalization rather than the argument of a verb realized in finite form. Looked upon in isolation, we may associate the phrase *the discovery of gold* with two different interpretations: 'discovery of an unspecific amount of gold' and 'discovery of gold as a distinct type of MATERIAL generally'. Interestingly, the contexts in (110a) biases the first interpretation, while the historical context in (110b) biases the second one. By virtue of the information on the place of the discovery in (110b) and by virtue of further information suggesting that the discovery took place in the past, the criterion of spatio-temporal locatedness for an S-T CONCRETE interpretation of the bare phrase *gold* is satisfied. How then is this strong tendency toward an interpretation of *gold* as a generic kind to be explained? Upon closer examination it turns out that the phrase *the discovery of gold* can be seen in this sentence as well as an EVENT with an extended duration, and the phrase *gold* contained in it can be interpreted as reference to a specific amount of gold really existing in the past. We suppose that it is precisely these contexts in which *gold* appears unquantified and undetermined (hence automatically receiving the value of QUALITY), has the Propositional Function of ATTRIBUTE and brings two possible interpretations very close to each other: a "generic" one {S-T ABSTRACT, DISCOURSE REFERENT} and a "non-generic" one {S-T CONCRETE, NON-DISCOURSE REFERENT}.

- (110) a. But the threat he regards as greatest of all is the one he least expected: **the discovery of gold** in the mountains at his back door. (BNC)
- b. **The discovery of gold** and silver in America, the extirpation, enslavement and entombment in mines of the indigenous population of that continent, the beginnings of the conquest and plunder of India, and the conversion of Africa into a preserve for the commercial hunting of blackskins, are all things which characterise the dawn of the era of capitalist production. (BNC)

The affinity of the second argument of *Search* Verbs to a S-T ABSTRACT interpretation formally manifests itself not only in the lack of explicit quantification and determination, but also in the preference of a non-finite mode of expression (*in his/its, etc. search for gold* is represented extremely often in the corpora) (cf. (111a)) and in the possibility of "incorporation" into the verb even when realized in finite form (cf. the progressive in (111c)).

- (111) a. In his **search for gold** he found many new islands including Cuba and Hispaniola. (BNC)
- b. Beginners often hold the misconception that the best way to **hunt gold** is to get up into the remotest area they can find, and prospect virgin ground. (BNC)
- c. I met my wife when I was **gold-hunting** in Brazil. (SH)

3.3.6 *Gold as Argument of Manufacturing, Transfer, and Other Verbs*

What can we do with gold? So far we have seen some examples: one finds gold or one looks for gold. One turns something into gold, but one can also make something out of gold. One can use gold to treat other ARTIFACTS oder MATERIALS by means of it (e.g. gold-plate them) and one can transfer gold. Finally, one can also use gold as a means, e.g. as currency.

In a large portion of the relevant examples from the corpora we find uses in which *gold* as MATERIAL is employed in the treatment of other ARTIFACTS or MATERIALS. In these cases, *gold* usually appears within a PP and without quantifiers and determiners. One could even say that this is the most frequent use of *gold*, in which it occurs in the following feature configuration: {ATTRIBUTE, NON-DISOURSE REFERENT, QUALITY}. It is no coincidence therefore to find a passive construction in the overwhelming majority of the tokens of this use given that the passive construction focuses the resultant STATE of the subject (cf. (112a), (113a)). It is worth mentioning in passing that this type of construction is also favored in the COLOR sense (cf. (112b), (113c)).

- (112) a. MATERIAL: be paved with gold, be covered with gold, be inlaid with gold, be tinged with gold, be veined with gold, be embroidered with gold, be fringed with gold (BNC); be tipped with gold, be dressed in gold (MM-ENG)
 b. COLOR: be streaked with gold, be brushed with gold (BNC)
- (113) a. His cane is **tipped with gold**,...(MM-ENG)
 b. Here where the streets **are not paved with gold**, but with garbage. (BNC)
 c. It was September, when the days take a long time to wake up and the green of the trees **is brushed with gold**. (BNC)

Incidentally, this is an area where idiomatic/metaphorical uses are very frequently found, such as exemplified in (113b).

Except for these cases, there are not very many verbs in English with which *gold* usually appears bare in a PP that constitutes a non-obligatory verbal complement. The verb *pay* is one that belongs here, and perhaps a few others, such as *restore*:

(114) MATERIAL: pay in gold, restore in gold

- (115) a. That they have cost me no more than my time makes such decisions much easier than if I **had paid** for them **in gold**. (BNC)
 b. By 1668 the Company had collapsed; when its successor, the Royal Africa Company, was launched in 1672 it had to tidy up the debts outstanding as well as **restore** the trade **in gold** and slaves from West Africa. (BNC)

The interesting aspect of the uses mentioned last is that they are connected with the values {ATTRIBUTE, NON-DISOURSE REFERENT, QUALITY} on the one hand, but also readily admit an S-T CONCRETE interpretation as in (115). And, as repeatedly pointed out, in an S-T CONCRETE

interpretation English shows a strong tendency toward bounding, i.e. toward an OBJECT-oriented perspective which leads to the use of quantifiers and determiners. It was necessary to search a tremendous amount of "gold tokens" in order to find other constructions and verb types than those mentioned so far in which the bare singular is used in an S-T CONCRETE context. The patterns "make gold" (with *gold* as the direct object) and "make something of gold" are reasonable candidates here, though most of the examples found were coincidentally (but not necessarily) S-T ABSTRACT (cf. (116b, c)). A clear example of an S-T CONCRETE interpretation can be seen in (116a) (cf. also (72a)), while (116d) has a generic interpretation again.

- (116) a. What did emerge though was a personable and seemingly deeply caring young man, claiming not to understand why sportsmen could not go to South Africa but could go to India, which **imported South African gold**. (BNC)
- b. Whoever had this room was using the stone to **make gold**! (MM-ENG)
- c. So under the surface of the thick glass lay a mass of long gold threads, filling in the whole cavity of the box with their turns and tumbles, so that at first the little tailor thought he had come upon a box full of spun gold, to **make cloth of gold**. (BNC)
- c. We both love to **work with gold**. (BNC)

3.3.7 Generic *Gold*

At the very outset of this investigation we had advanced the following hypothesis: in English, the use of the definite article for marking genericity in the classical sense is restricted to nouns which are lexicalized with a certain SHAPE and behave grammatically as COUNT nouns. That is, we assumed that we would not find any attestation of *gold* in which *gold* is used in the MATERIAL sense and the NP, whose constituent it is, has to be interpreted with the following values: {DISCOURSE REFERENT, S-T ABSTRACT, QUALITY}. This has largely been confirmed: disregarding taxonomic uses (SORT uses), in which - on the one hand - this feature configuration may be present and which - on the other hand - must be marked with the definite article under grammatical pressure (e.g. in the presence of a superlative), we actually have not found any convincing relevant example. However, we want to point to a number of borderline cases in which the presence of the definite article is not motivated by the well-known factors demonstrated in section 3.2 (cf. p. 57). We occasionally encounter *gold* provided with the definite article in cases with metaphorical overtones, when, for example, *gold* is understood in the sense of personified wealth (cf. (117a, b)). The texts from which these tokens come are, in fact, predominantly poetically colored texts. Other attestations suggest puns with different senses of *gold* (cf. (117c)).

- (117) a. Yet somehow life's not what I thought it, And somehow **the gold** isn't all. **There's gold** and it's haunting and haunting Its luring me on as of old; Yet it isn't the wealth that I'm wanting So much as just **finding the gold**. (BNC)
- b. By the philosophers I am named Mercurius, he said there, my spouse is **the gold**; (BNC)
- c. The silver is soccer's prized trophies, **the gold** is the money from selling players. (BNC)

In addition, we found a number of sentences with the phrase *the gold*, which could well be interpreted as generic when looked upon in isolation (cf. (118)). All these sentences could, however, also be understood in such a way that the definite article signals reference to a previously mentioned DISCOURSE REFERENT (which is thus established in the temporary registry rather than being stored as a generic concept in the permanent registry) or that it can be interpreted in terms of a definite introduction with identifying restrictions being implicitly inferable from the local context (i.e. not being expressed by explicit means such as relative clauses). (In (118a) the gold mentioned is presumably that gold of which the function had been discussed throughout the previous text, i.e. that already talked about or that used in the area mentioned. In (118b) Mr. McDuck presumably refers to the specific amount of gold of which the role in his life had been the topic of the previous text.)

- (118) a. The apparent rarity of balances in the sixth century emphasises the change that had taken place, especially in Kent. That a regular unit was in use, which differs from the Continental value, reflects a centralised authority and even, perhaps, that the bearers of the balances were official representatives of the court, which would point to the destiny of **the gold**; (BNC)
- b. Did all that gold make you rich, Mr. McDuck?...
- Mr. McDuck (some sentences later): But **the gold** did me no good! (MM-ENG)

In section 3.1 above, in discussing the semantic relations which may hold between head and modifier, we pointed to the following: in that relation in which the head expresses an ABSTRACT property of the syntactic modifier *gold* (which is to be understood as MATERIAL), there are good reasons to believe that *gold* is to be interpreted as a generic DISCOURSE REFERENT. In the same section we used a minimal pair (cf. (62)) to explicate the problem of the analysis of an expression such as *the price of gold*, which is posed by the fact that S-T ABSTRACT contexts foreground the QUALITY aspect of *gold*, while S-T CONCRETE contexts foreground the collective interpretation of all available quantities of gold at a certain time and at a certain place (cf. the discussion of the same problem with regard to the phrase *the discovery of gold* in this section further above). In (119) we can see a number of further examples for this type of semantic relation between gold as "genitival" modifier and an abstract noun. The fact that definite anaphoric continuations such as that in (119c) are readily possible strengthens our hypothesis of the generic status ({DISCOURSE REFERENT, S-T ABSTRACT}) of corresponding NPS headed by *gold*. Examples showing a coreferential relation between *gold* and a definite description such as *the precious metal* also speak in favor of this hypothesis (cf. (119e)). However, because of the preceding contrast between *gold* and *silver*, sentences such as (119a), in which no pronoun is used in the second mention and the referential act is performed by means of lexical repetition, do not invalidate this hypothesis either. (Apart from that, lexical repetition is always possible with mentions of generic DISCOURSE REFERENTS.)

- (119) a. Moreover, **the relative value of gold** to silver was much lower in western Europe than it was further east, in the Byzantine and Islamic worlds, so **gold** tended to leave western Europe and silver became the principal medium for coinage. (BNC)
- b. It is difficult to understand **the function of gold** in early Anglo-Saxon society in much greater detail. (BNC)

- c. **The role of gold** has always been a controversial issue in the international monetary system, but with the advent of floating **its** importance as a source of international liquidity has been reduced in several ways. (BNC)
- d. In recent times gilt has been widely used to create **the effect of gold**, but during the seventeenth and eighteenth centuries there was a fashion in Europe for silver thrones,... (BNC)
- e. ...**the high value of small quantities of gold** has facilitated the transfer of **the precious metal** in the market place. (BNC)

Neither can a generic interpretation be excluded for other types of semantic relation in which *gold* appears without determiners and quantifiers within a modifying PP, not even for those whose head is an existential expression (such as *supply*, *stock*, *source*, etc.). Here, too, historical contexts favor such an interpretation (cf. (120c, d)). In addition, negation also plays a part here: first, the question of whether the head is a negative existential expression (such as *shortage*) or a positive one (such as *presence*), and, second, the question of whether the entire phrase is in the scope of negation (cf. *not the main source of gold* in (120a)). As a further factor the Propositional Function of the entire phrase is presumably relevant in that NPs appearing as indefinite ATTRIBUTES (*a massive supply of gold*, *a shortage of gold*) are more likely to bias a generic interpretation than NPs constructed as definite TOPICS.

- (120) a. Despite **the presence of gold** and minor base-metal sulphides in the drillcore from this zone, it is believed that this is **not the main source of gold** and there may be a more fertile source elsewhere in the area. (BNC)
- b. The second is that **a massive supply of gold** glimmers unseen in central-bank vaults. (BNC)
- c. AD 675, **a shortage of gold** forced a change to silver coins... (BNC)
- d. ...but Brazil continued to flourish and was beginning to emerge as the world's **main source of gold**. (BNC)

Further candidates for a generic interpretation of *gold* in the modifying position within the NP can be seen in (121). These also comprise such cases where the head constitutes an EVENT nominalization (e.g. in (121a, b)). This interpretation is favored by the contrastive mention of other metal SORTS such as *silver* (cf. (121a), (121c) (in (c) a third SORT (*platinum*) is compared to *gold* and *silver*)); further similar examples are *the difference between gold and tin* (in (128b) further below), (*to withstand*) *the strong competition of gold*.

- (121) a. Third, debasement of early medieval coinage in western Europe and **the eventual replacement of gold by silver** can be attributed to the cessation of the flow of gold bullion from east to west with the abandonment of gold subsidies paid by the Byzantine empire to the barbarians in the west. (BNC)
- b. **The distribution of gold** is very sporadic. (BNC)
- c. By way of contrast, the Spanish conquerors of northwest South America (modern Colombia), where the first deposits were found, regarded it as **a dangerous adulterant of gold and silver** and tried to prohibit its export — unavailingly, although its supply to European chemists was made capricious. (BNC)

If one looks at the different syntactic positions on the higher level of clause structure (i.e. not within the NP), in which an NP containing *gold* as its head and having a generic interpretation appears, the following can be observed: as expected, the construction of *gold* as a generic subject is frequently attested in the corpora (cf. (122)), but also comparatively many generic PPs can be found (cf. (124) and (79a) above). The PPs are frequently attached to adjectival predicates governing a preposition (as in (124c, d)). On the other hand, we have not succeeded in finding more than two attestations of a generic direct object (cf. (123)). If one is allowed to generalize this state of affairs, one could say that the Propositional Functions of TOPIC and ATTRIBUTE are equally well compatible with a generic interpretation, but in the case of the TOPIC only if it is a primary rather than a secondary one.

The entire range of generic variations can easily be demonstrated by means of the subject examples: in (122a, b) the respective NPs may be considered as generic; they do not, however, appear in a generic sentence, i.e. together with a generic or a characterizing PREDICATE. These are cases where, for example, a metalinguistic reading prevails (as in (a)) or where the generic NP is in focus (as in (b)). In (122c, d) we have characterizing PREDICATIONS, which frequently have restrictions as in the (c) sentence (*in its natural form*). Sentence (122c) contains a statement about the occurrence of the kind as such (i.e. a PREDICATE which is only interpretable as collective). As a generic subject, *gold* is restricted in (122e) within the scope of a historical context and in (122g) we have a local restriction. The last two examples (122h, i) illustrate personal characterizations.

- (122) a. What is **gold**? (BNC)
 b. Some materials still resist easy answers— **gold** is an example. (BNC)
 c. **Gold** in its natural form glows deep amber yellow, but when mixed with the various alloys **it** takes on a variety of hues. (BNC)
 d. **Gold** is at its most malleable and ductile when **it** is purest. (BNC)
 e. **Gold** is much more widely distributed in nature than jade. (BNC)
 f. In popular mythology, **gold** is regarded as a good investment. (BNC)
 g. In Brazil **gold** is guilty of crimes against the environment and against humanity. (BNC)
 h. "And **gold** is the Leo metal, Luke," she whispered. (BNC)
 i. **Gold** isn't as good as butter. (BNC)
- (123) a. He was a man who loved secrecy for secrecy's sake and hugged such secrets to his chest like other men **do gold**, silver or precious stones (BNC).
 b. I guess I know **gold** when I see **it**. (MM-ENG)
- (124) a. If she went to New York, she would be saying, in effect, I **choose love over gold**, love over my career. (BNC)
 b. The SDR was originally **defined in terms of gold** at a value of 1/35 of an ounce (equivalent to \$ 1 at the prevailing official price); hence its former title of "paper gold". (BNC)
 c. Patala is **symbolic of gold** and the earth's minerals which energize the terrain and fertilize it. (BNC)
 d. ...but this move had little significance since the dollar was no longer officially **convertible into gold**. (BNC)

Metalinguistic uses can be interpreted as a special case of generic use. The boundaries between cases such as *definition of gold* and those where *gold* is used as a word are fluid:

- (125) a. First is **the inadequate definition of gold** and silver, which leaves it upto the jury empanelled by the coroner, to whom the objects have been handed over, to decide if **they** are treasure or not. (BNC)
 b. The poem is deliberately unconventional: no mention **of gold**, frankincense, and myrrh. (BNC)
 c. Gold! I love that word! (MM-ENG)

In section 2.3.3 we said that we have to differentiate between references to SORTS and references to kinds in general (i.e. to classical generic references) in order to account for their different grammatical behavior (association with grammatical COUNT environments with the former, association with grammatical MASS environments with the latter). At the same time, however, we have stressed that SORT uses point - like QUALITY uses - to intensional properties, namely those which delimitate them from other SORTS.

It is repeatedly pointed out in the literature that taxonomic hierarchies have a distinct level, called "basic level", which in many respects differs from the superordinate and subordinate levels. In the context under discussion, *gold*, together with *silver*, *iron*, etc. belongs to this level, in contrast to its hyperonym *metal* and its hyponym *white gold*. In theoretical treatments of genericity one may occasionally find the view that generic NPs have to be established kinds (cf. Krifka et al. 1995), that established kinds do not occur below the basic level and that reference to SORTS is possible only on the superordinate level (i.e. with *metal*) (cf. Krifka 1991).

Nevertheless, corpora offer a great number of examples in which more specific SORTS of *gold* occur as subjects of generic sentences and in which they are, of course, constructed as bare singulars (cf. (69a)):

- (126) a. **Pure gold** is twenty four carat. (BNC)
 b. 18 carat is 75 per cent pure and lovers of gold will appreciate the wonderful warmth and rich colour whilst **9 carat gold** is 37.5 per cent pure. (BNC)
 c. **Dendritic gold** occurs in calcite veins in Devonian limestones at Hope's Nose, near Torquay in south Devon. (BNC)

We even found an example in the BNC corpus in which hyponyms of *gold* in the SORT use were constructed in the plural, something which should be excluded even for *gold* itself:

- (127) Choose from **warm rose gold**, classic rich yellow, or the more unusual white. A popular mix is used in the Russian wedding rings combining red, **white and yellow golds** in their three entwined bands. (BNC)

It is admittedly true that a noun such as *metal* is much more frequently constructed in the plural (cf. (128)) than a noun such as *gold*, and that it regularly appears in "direct" combination with numerals (cf. (128c)). Incidentally, a plural construction of *metal* is

preferred precisely when *metal* occurs as the subject of a generic sentence since in this case implicit or explicit reference is always made to the differences between the various SORTS of *metal* (cf. (128a); cf. also (128b)).

- (128) a. **Metals** do not, with the exception of **gold**, a limited amount of copper, and meteoric iron, occur as the free metal in nature: they usually occur as metallic minerals which have to be smelted. (BNC)
- b. Levi, the expert on **metals**, would have had no difficulty in telling the difference between **gold** and tin. (BNC)
- c. ...and the latter is useful only when dealing with an alloy of **two metals of greatly differing specific gravities**; (BNC)

The following examples come from a single text about the processing of metals. The examples show that in the case of a SHAPE conceptualization *metal* behaves exactly like *gold* or *silver*: in both cases (cf. (129a, b)) a SHAPE-indicating dummy noun is placed as the head of the phrase in the combination with numerals and COUNT quantifiers (cf. p. 56, 62 above). Note that first (129b) contains a characterizing PREDICATION as well, i.e. this sentence corresponds to generic sentences in which a restriction is expressed by means of an adverbial such as *in general*. In (129b), however, the phrase *the metals* is not to be understood as the set of different objects (*silver or (?) gold objects*), but as the set of two SORTS whose QUALITY is foregrounded. It should also be stressed that *metal* is by no means exclusively a COUNT noun. In a number of constructions (in constructions of comparison or as a "secondary predicate") it appears in a bare form just as *gold* (cf. (129b)).

- (129) a. Joins **on silver or gold objects** made with silver and gold solders cannot usually be distinguished by radiography because they are approximately the same density as **the metals** the join. (BNC)
- b. **Many metal objects** are made of more than one component. (BNC)
- c. These difficulties could be overcome by using finely ground copper carbonate **rather than metal**, and mixing it with an organic glue. The glue held the granulation in place and turned to carbon when heated, reducing the copper carbonate **to metal**. (BNC)

In concluding this section, we will add some remarks on the treatment of coreferentiality. Let us begin with example (130), in which the antecedent of *it* is an S-T CONCRETE DISCOURSE REFERENT. As it were, this is the model case of anaphoric continuation.

- (130) **The gold** is so pure! **It** can be molded like butter! (said by Scrooge digging the gold) (MM-ENG)

In (131) we see forms of text reference, which are not to be expected for a definite S-T CONCRETE antecedent: the relative pronoun *which* and lexical repetition. The relative pronoun *which* can be understood as a device for the co-indexing of QUALITIES rather than of OBJECTS. The lexical repetition in (131b) is not particularly indicative since *gold* is in focus in the second mention. At any rate, this is compatible with a generic interpretation of both mentions (cf. above).

- (131) a. **Gold** (**which** was, of course, substitutable for dollars) was obtainable on a limited scale by trade within the sterling area from South Africa. (BNC)
- b. The essential feature of the gold standard was that each country's currency had a fixed value in terms of gold (i.e. **gold** was the numeraire), and therefore exchange rates were effectively fixed. (BNC)

It has been demonstrated at several points in this work that the use of *it* is possible after a generic antecedent (cf. the examples (76), (105a), (119c), (122c, d), (123b) above). In (132) we present a number of further examples of this phenomenon. Here we also have attestations for cataphorical reference to a following NP which is to be interpreted generically (cf. (132b, c)). Of special interest are those cases which show a change between a completely generic use (i.e. {DISCOURSE REFERENT, S-T ABSTRACT, QUALITY} in our terms) and a use with a slightly different feature configuration. Thus, for example, the first mention of *gold* in (132a) is likewise to be ranked as S-T ABSTRACT, but not in all likelihood as {DISCOURSE REFERENT, QUALITY}. The pronoun following it and the second, now definite, mention of *gold*, however, neither refer to this hypothetical gold nor to gold purely and simply (i.e. the generic DISCOURSE REFERENT). Only by the use of the definite description (*the lovely stuff*) is a change to the generic referent accomplished. Cases of this degree of complexity still await a proper solution. Much more work has to be done in this field in the future.

It is furthermore open to question whether the criterion of DISCOURSE REFERENTS is satisfied in the mention of *gold* in *the best way to clean gold* in (132e), which follows two pronominal mentions. What speaks in favor of this is the fact that one also could use the pronoun *it* instead of the realization of the lexical element. By contrast, it would not seem to be possible to make a generic reference by means of *it* after the phrase *a gift of gold*. We can see in (132e) (*gold's most prized qualities* → *it*) that this is not due to the fact that *gold* is here a constituent of a PP.

- (132) a. Maybe you have read **of gold being found** in a particular locality, but now you can see **it**. There, sitting safely behind the glass, **the gold** smiles up at you and glow [sic!] faintly. It can be almost unbearable! After a visit to such a museum I'm always left pining for a chance to seek out my own sample of **the lovely stuff**. (BNC)
- b. On the wedding day itself what could be more appropriate than **gold**, the symbol of everlasting love? **Its** warmth and richness will add the finishing touches that are all important to the dress of your dreams. Say thank you with **a gift of gold** from Beaverbrooks. (BNC)
- c. Of course, like **its** colour, **gold's** primary qualities of solidity and extension also result from its consisting of solid, extended corpuscles. (BNC)
- d. The Aztecs believed **it** to be the "sweat of the sun" whilst the Egyptians connected **gold** with their Sun God, Ra. It is therefore apt that we choose **gold** for our most symbolic adornment, the wedding ring. Rare, everlasting and immensely treasurable, **gold** has all the qualities we hope to find in marriage. ... Today, **gold** is mixed with a variety of alloys to enhance these qualities, and it is this mixture which determines **its** value and purity. (BNC)
- e. Take good care **of your gold**, a little loving care and attention will keep your jewellery looking its very best. Although one **of gold's most prized qualities** is that **it** does not tarnish easily, **it** deserves to be treated with respect. The best way to clean

gold is to use a specially formulated cleaner and then gently brush with the soft brush provided, to remove any grease or dirt. (BNC)

Much of the material in the preceding examples has been excerpted from three larger texts from the BNC dealing exclusively with gold. In the appendix at the end of this work we will present the three texts in complete form to enable the reader to pursue the discourse structure in which the different mentions of *gold* are embedded.

4 Arabic

In this section we will present an analysis of the Arabic equivalent of the English word family connected with *gold*. Before entering into the discussion, a brief note on the term "Arabic" and the situation in which the documentation of its different varieties finds itself are perhaps useful. "Arabic" is certainly not a homogeneous language. There are considerable differences both (a) among the different varieties of "Colloquial" Arabic spoken as vernaculars in different parts of the Arab world (Iraq, Egypt, Morocco, etc.) and (b) between the single regional languages and the variety usually referred to as "Standard" (Written) Arabic (a modernized version of Classical Arabic), which is used as a supraregional literary language. In particular, we find interesting typological differences in the nominal domain with respect to the alternation between nouns and adjectives and in the system of quantification. This will be amply demonstrated in the sections below.

Two varieties of Arabic will be considered in this monograph, "Standard Arabic" (the modern literary language), and "Egyptian Arabic" (the language spoken in and around the city of Cairo, also called "Cairene Arabic"³⁶). Standard Arabic is used for all written purposes all over the Arab world and is one of the world's best-documented languages looking back on a history of approximately two millennia. Even so, its exploitation for theoretical linguistic purposes is still in its infancy. Egyptian Arabic is chiefly a spoken language appearing in written form only to a very limited extent. In the absence of BNC-type large machine-readable corpora even for Standard Arabic, let alone for Egyptian Arabic, we had to rely on a much smaller corpus compiled by ourselves. Fortunately enough, there is a text genre which ideally fits this purpose. In the early 60s, Dar al-Hilal Publishers in Cairo started the publication of the weekly magazine *Miikii* licensed by Walt Disney's Comics and Stories. This provides a genuinely bilingual text of a rare sort. All the spoken language contained in the balloons of the comic panels is in Egyptian Arabic³⁷. The titles, introductions, connecting text passages on top of the panels, and similar "non-spoken" text material (e.g., inscriptions) appear in the Standard language. All non-comic material is also written in the Standard language (impressum, short fictional texts, sports reports, etc.), except for a number of anecdotes for which the spoken language is typically used. The mixture of spoken and written language in the comics provides a great number of minimal pairs or near-minimal pairs since the same topics are often addressed in both varieties. In the preparation of the present investigation, we examined five bound volumes of *Miikii* comprising 130 issues (# 89-166, 194-219, 246-271) published between 1963 and 1966. Examples from this corpus will be

³⁶ The varieties spoken in Upper Egypt differ markedly from this language.

³⁷ The interpretation of the Egyptian Arabic text is not always straightforward given that the text is represented in the Arabic script, which does not write vowels, is not based on any established orthography for the vernaculars, and shows interference with Standard Arabic orthographical practice. Transliterations given here rest on one of the authors' personal experience with Egyptian Arabic, supplemented by extensive use of HINDS-BADAWI and advice given by native speakers. Standard grammatical sources, in particular Mitchell (1956, 1962) were also consulted. Occasional misinterpretations may occur and we apologize for these, but we are convinced that they do not significantly distort the overall picture.

marked with "MM-AR". In addition to MM-AR, some examples were also taken from the Arabic translation in the Little Prince corpus (marked LP).³⁸

The chief dictionaries³⁹ used are WEHR-COWAN (Standard Arabic-English), Götz Schregle's German-Arabic dictionary (abbreviated SCH), and the Dictionary of Egyptian Arabic by Hinds and Badawi (abbreviated HINDS-BADAWI). For bibliographical details see References.

4.1 On Nouns and NPs in Arabic

4.1.1 Noun Classes

Medieval Arab grammarians made various attempts at the classification of Arabic nouns. A contamination of these systems has survived into the Western philological tradition and is used down to the present day in Arabic linguistics. The result is a classification based mainly on the morphological potential of lexical nouns with respect to their compatibility with two

³⁸ The transliteration used in this work largely follows common Orientalist practice, neglecting some minor idiosyncracies. Alveolars with a dot under them have velarized secondary articulation (*ṭ*, *ḍ*, *ʃ̣*, *ẓ*); *ħ* is a voiceless pharyngeal, *ʕ* its voiced pendant. The glottal stop is transcribed as *ʔ*. Underlined *t* and *d* are interdental (*t̪*, *d̪* = English voiceless and voiced *th* respectively). The symbols *ʃ̥* and *ʒ̥* represent equivalents of English *sh* and *j* respectively; *ɣ* is a voiced velar fricative; its voiceless counterpart is represented by *x*. For reasons of simplicity, we write long vowels as double vowels instead of following the Orientalist practice of marking them with a macron.

Egyptian Arabic is usually transcribed in a writing system introduced by Mitchell (1956) and using IPA-related symbols. We have not followed this system here but assimilated our transliteration to the symbols used for the transcription of Standard Arabic. We have not followed the usual practice of writing the non-phonemic epenthetic *i* inserted after the second consonant of illicit consonant clusters across word boundaries either. We will thus write, e.g., *aḥamm min* ('more important than') rather than the usual *aḥammi min* or *aḥammī min*.

³⁹ Even though we are not primarily concerned with the classical language, standard Classical Arabic dictionaries were also consulted for comparison.

types of number categories (singular vs. plural and singulative vs. collective)⁴⁰, but also secondarily determined by the default interpretation which number formations permitted for the lexical noun in question usually have in the discourse. A four-way distinction is usually made which is shown in Table 4:

⁴⁰ Arabic also has a dual number, which is disregarded here. All nouns that can appear in the plural can also appear in the dual number and vice versa.

Table 4 Traditional Classification of Arabic Nouns (Examples from Standard Arabic)

Name of the class	Morphological Potential Compatibility with number categories	Semantic Potential Semantics of number categories	Examples
' <i>ismu l-wahḍati</i> ("nouns of oneness")	1: yes, 2: no	SG: a single entity lexicalized with an inherent SHAPE PL: a multitude of corresponding entities	SG: <i>rağul^{un}</i> 'man', PL: <i>riğaal^{un}</i> 'men'
' <i>ismu l-ğamⁱ</i> ("nouns of collections")	1: yes, 2: no	SG: a single group consisting of entities lexicalized with an inherent SHAPE PL: a multitude of corresponding groups	SG: ' <i>ibil^{un}</i> 'camel herd', PL: ' <i>aabaal^{un}</i> 'camel herds'
' <i>ismu l-ğinsiⁱ</i> ("nouns of kinds")	1: no, 2: no	SG: kind/an unspecified amount of an entity lexicalized without an inherent SHAPE	SG: <i>fiḍḍat^{un}</i> 'silver'
' <i>ismu l-ğinsi l-ğam^{iyyi}</i> ("nouns of collective kinds")	1: no, 2: yes, 3: yes	SG: kind/an unspecified amount of entities lexicalized with an inherent SHAPE/ an unspecified amount of an entity lexicalized without an inherent SHAPE SINGULATIVE/SG: a single part/member of corresponding entities SINGULATIVE/PL: a multitude of single parts/members of corresponding entities	SG: <i>ḥamaam^{un}</i> 'the species "dove"; 'doves', SINGULATIVE/SG: <i>ḥamaamat^{un}</i> 'a single dove', SINGULATIVE/PL: <i>ḥamaamaat^{un}</i> 'several single doves' SG: <i>zuğaağ^{un}</i> 'glass (as SUBSTANCE)' SINGULATIVE/SG: <i>zuğaağat^{un}</i> 'piece of glass' SINGULATIVE/PL: <i>zuğaağaat^{un}</i> 'pieces of glass'

Legend: The figures in the column "Morphological Potential" indicate: 1: distinction between singular and plural forms; 2: morphological alternation for the distinction between kind interpretation and singulative interpretation; 3: distinction between singular and plural forms for the singulative alternation member

There is a superficial similarity between the first two classes and the traditional English class of COUNT nouns and between the last two classes and the traditional class of English MASS nouns. The distinction between the first two classes corresponds to a common subclassification of COUNT nouns into ordinary COUNT nouns and COUNT nouns with a collective interpretation (*flock, herd, group, team*). The distinction between the third and the fourth class has no immediate correspondence in English. It could perhaps be maintained that the subclass of English MASS nouns whose simplex forms alternate with complex constructions containing UNIT nouns (*information - piece of information*) is in part comparable to the Arabic fourth class. This identification would, however, be misleading, insofar as UNIT noun constructions similar to the English ones also occur in Arabic with nouns of both class three and class four, while only class four nouns occur in alternation with a specific morphological singulative form which has a specific range of semantic nuances not identical with that of UNIT nouns.⁴¹

Arabic nouns distinguish two genders, masculine and feminine. The genders constitute morphological classes. The feminine is often, but not always, marked with suffixes, the most frequent of which is *-at-*. The gender system cross-cuts number marking. Gender and number are also marked on the verb, and there is an extremely complex system of rules of gender/number correspondence between subject and predicate on the sentence level and head noun and adjective, numeral, demonstrative, etc., on the phrasal level. The rules of agreement/non-agreement depend on a variety of factors such as word order, inherent idiosyncrasies of certain lexical classes and certain constructions, etc.

Standard Arabic has a three-term case system operating with case endings which appear at the end of the word after potential derivational suffixes including the feminine suffixes. The regular forms of the case endings in the singular are *-u* "nominative", *-i* "genitive", *-a* "accusative". The labels given are those used in the Orientalist tradition; they roughly convey the prototypical functions of these markers (nominative = subject, genitive = adnominal, accusative = direct object). The nominative is also the form in which predicate nominals appear in simple juxtaposition with zero copula; when there is an overt copula the predicate nominal is in the accusative. Lexicon entries are always cited in the nominative. Egyptian Arabic has no case marking.

The nouns for 'gold' as one usually finds them in the dictionaries may serve as a starting-point to illustrate the entire system. According to the four-way classification presented in Table 4, the Standard Written Arabic noun *dahab^{un}* ('gold') is a "noun of kind" (third class), which means that the noun in question is not number-manipulable for quantification; it neither has a plural form, nor a singulative⁴². Morphologically, it is a

⁴¹ An excellent study of Arabic "nouns of kind" is Ullmann (1989). He is primarily concerned with our fourth class (nouns which have singulatives) and does not explicitly make a distinction between the fourth and the third class. We will follow those who do (e.g. Brockelmann) since for the purpose of our present study, a distinction between these two classes is helpful.

⁴² The singulative *dahaba^{um}* ('a goldpiece') is perhaps attested in Classical Arabic, though apparently not used in the modern standard language; at least we do not have any occurrence of it in the corpus and the informants consulted were unable to give conclusive information about its use. It appears in Brockelmann's Classical Arabic grammar (Brockelmann 1962:81), given there as an example of singulative formation, but is not mentioned by Ullmann (1989), nor does it seem to occur in any of the Classical lexicographic sources.

masculine singular. The suffixes *-un*, *-tun*, etc. appearing at the end of Standard Written Arabic forms as superior letters disappear in the "pausal form" of nouns (i.e. before a pause) and are frequently omitted in modern Arabic. They are retained here throughout in order to make the inflectional characteristics explicit for the reader without jumping back and forth too much between pausal and non-pausal forms. The vowels appearing in these suffixes are the case markers, thus nominative *dahab^{un}*, genitive *dahabⁱⁿ*, accusative *dahab^{an}*, all becoming *dahab* in the "pausal form".

The Egyptian Arabic equivalent of *dahab^{un}* is *dahab*, also masculine singular. Egyptian Arabic has lost the case endings; nouns appear in roughly the shape of the classical pausal forms. In contrast to Standard Arabic it belongs to class four, in that its realization as a term alternates with a singulative *dahabaaya* (feminine singular), which in turn has a plural *dahabayaat* ~ *dahabaat*. The standard translation for the singulative is 'piece of gold', for its plural 'pieces of gold'. It is worth noting here that this shift of class is not an exceptional phenomenon; there is a significant difference between Standard Arabic and Egyptian Arabic in the potential of number marking for nouns. In Egyptian Arabic the class of "nouns of collective kinds" with its typical triple of simplex-singular/singulative-singular/singulative-plural has dramatically increased.⁴³ The consequences of this for the overall make-up of the system of quantification will be discussed in section 4.1.3.

4.1.2 System of Determination

Standard Arabic distinguishes two forms with regard to determination, a "determinate form" with the article *al-* prefixed to the noun⁴⁴, and an "indeterminate form" which suffixes *-n* to the case endings. The citation form of the noun is the indeterminate nominative (*dahab^{un}* ('gold')); the determinate nominative would be *ad-dahab^u*. There is no indefinite article and no equivalent of the English difference between COUNT and MASS determiners such as *a* and *some* in, say, *give me a cigarette* vs. *give me some milk*; both would be translated with the indeterminate form without any further determiner or quantifier.

Whenever the noun occurs as the head of a following genitive (the order is always head-modifier), it appears in a form without the article and without the suffix *-n* (cf. (133)).

- (133) *dahab^u* *r-ra'isⁱ*
 gold:NOM ART-president:GEN
 'the president's gold'

This is also the case when possessive suffixes are attached:

Classical dictionaries also list three different plural forms of *dahab^{un}*, which are out of use in the modern Standard language.

⁴³ It may be noted in passing that this is probably not a historical development since it is possible that the restrictions on the use of singulatives may have been standardized in Standard Written Arabic vis-à-vis Classical Arabic with the result that Cairene Arabic is more like Classical Arabic in this respect.

⁴⁴ The *a* of the article is dropped after vowels and the *l* is completely assimilated to dental consonants, hence *ad-dahab^u* for /al-dahabu/. There are several other sandhi phenomena which are disregarded in the transliteration used in this work.

- (134) *dahabu-ka*
 gold-POSS:2SG:MASC
 'your (male) gold'

It is thus not possible to mark definiteness on the head noun of these constructions. The article on the nominal modifier as in (133) renders the entire phrase definite without indicating which part of it is responsible for the definiteness. Likewise, the indeterminate form of the modifier indicates the indefiniteness of the entire phrase:

- (135) *maṅgam^u dahabⁱⁿ*
 mine:NOM gold:GEN:INDEF
 'a gold mine'

To express indefiniteness of the modifier one has to resort to circumlocutions such as (136):

- (136) *maṅgam^{un} min manaḡim^a r-ra'iisⁱ*
 mine:NOM:INDEF of mines:GEN ART-president:GEN
 'one of the president's mines' (lit. 'a mine of the mines of the president')

Nouns to which the possessive suffixes are attached are always considered definite.

The Egyptian Arabic system is something of a watered-down version of the Standard system. The use of articles is as in Standard Written Arabic with the formal difference that the definite article is *il-* instead of *al-* and the indefinite suffix *-n* is lost. Since the case endings are also lost, there is merely an opposition left between two forms, a form with the article (*id-dahab*), and a bare form (*dahab*). The form with the article behaves like its Standard Arabic equivalent (except for case marking); the bare form is a merger of the "indeterminate form" of Standard Arabic (and will therefore be so called when occurring in this function), and the form without the article in which heads of genitive constructions occur (cf. (137))⁴⁵.

- (137) a. *dahab ir-ra'iis*
 gold ART-president
 'the president's gold'
 b. *mangam dahab*
 mine gold
 'a gold mine'

There is, however, an important formal difference between the head of a genitive construction and the indeterminate form with feminine nouns bearing the Egyptian Arabic equivalent of the Standard feminine suffix *-at-*: this appears as *-a* in the indeterminate form and as *-it* when the noun is the head of a genitive construction:

⁴⁵ Egyptian Arabic has a second type of "genitive" construction involving the linker element *bitaa'* ('belonging to'). This construction will not concern us here.

- (138)a. di gineena
 this:FEM garden
 'This is a garden.'
- b. di gineenit ir-ra'iis
 this:FEM garden ART-president
 'This is the president's garden.'

This formal difference will play an important role in the discussion of the status of certain adnominal modifiers in section 4.2.

4.1.3 The System of Quantification

An essential diagnostic criterion for distinguishing between MASS and COUNT nouns English style consists in their compatibility with quantifiers. There are strong co-occurrence restrictions between quantifiers and lexical forms. The MASS/COUNT distinction is thus established in English grammar in the field of quantifiers due to the existence of two types of nouns (MASS und COUNT), characterized by different compatibility with quantifiers. A particular feature of this correlation is the existence of pairs of quantifiers (*much* vs *many*), each member corresponding to one type of noun to the exclusion of the other, which is an important aspect of the MASS/COUNT distinction of the English type.

In Arabic, "nouns of kinds" do not appear to require any special formal treatment of non-numerical quantifiers. The most common quantifiers such as *ba'qun* ('part, portion, a certain quantity; one; some, a few; a little of, some of'), *kullun* ('totality, entirety; everyone, each one, anyone; (with following determinate noun) whole, entire, all; (with following indeterminate noun) every')⁴⁶ are regular nouns constructed as heads of genitive phrases and appearing in the same form with all nouns, receiving their interpretation from the specific number and definiteness features of the quantified noun. It is worth noting, however, that "nouns of kinds" can only occur in the determinate form after these quantifiers:

(139) Standard Arabic

- kull^u rağulⁱⁿ (INDEF/SG): 'every man'
 kull^u r-rağulⁱ (DEF/SG): 'the entire man'
 kull^u r-riğaalⁱ (DEF/PL): 'all men'
 kull^u d-dahabⁱ (DEF/SG): 'all of the gold'

Egyptian Arabic

- kull raagil (INDEF/SG): 'every man'
 kull ir-raagil (DEF/SG): 'the entire man'
 kull ir-riggaala (DEF/PL): 'all men'
 kull id-dahab (DEF/SG): 'all of the gold'

⁴⁶ The meaning definitions are taken from WEHR-COWAN.

The quantifier *katiiir^{un}* ('much, many') (Egyptian Arabic *kitiir*) is an adjective and follows the agreement rules for adjectives determined by the morphological type of the noun. The quantifier *kam* (Egyptian Arabic *kaam*) ('how much, how many') is invariably constructed with the indeterminate accusative singular, or alternatively with the partitive preposition *min* ('of') + singular genitive:

- (140) *kam* *ḥuğra^{tan}* / *min ḥuğra^{tin}* *fii haadaa* *l-baytⁱ*
 how much room:ACC / of room:GEN in this:MASC ART-house:GEN
 'How many rooms are there in this house?'
 (cf. PL *ḥuğaraat^{un}* 'rooms')

There is, however, an interesting distributional difference between the two constructions exemplified in (140) depending on the class of the noun. Whereas "nouns of oneness" and "nouns of collections" admit both of the alternatives exemplified in (140), "nouns of kinds" do not admit the first one (the accusative singular)⁴⁷.

- (141) *kam* **dahab^{an}* / *min dahabⁱⁿ* *fii haadihi* *l-xaziina^{ti}*
 how much gold:ACC / of gold:GEN in this:FEM ART-safe:GEN
 'How much gold is there in this safe?'

Furthermore, "nouns of kinds" may appear in a third form after *kam*, namely in a PP with *min* and the definite article (*kam min ad-dahabⁱ* ('how much gold')).⁴⁸

Some further information is necessary here on the difference between the two varieties of Arabic examined here, with respect to the treatment of class three and class four nouns (i.e. "nouns of kinds" without number morphology and "nouns of collective kinds" forming singulatives).

In Standard Arabic, "nouns of kinds" comprise a comparatively large group. It is typical of the semantic domain of MATERIALS, especially metals and liquids. However, not all MATERIAL nouns show the same overall behavior as *dahab^{un}* ('gold'). Different patterns of number manipulability cut across semantic subfields of MATERIALS. Some of the liquids and fine MATERIALS are of the "noun of kinds" type without singulative and plural forms, for example *ḥaliib^{un}* ('milk'), *min^{an}* ('sperm'), *daqiiq^{un}* ('flour').

Others behave differently. Liquids and fine MATERIALS do not normally have a singulative, but most of them have plural forms with a considerable range of interpretations.

⁴⁷ This is related to the fact that the use of the accusative singular in this construction is intimately tied to the extremely complex enumeration system of Classical and Standard Arabic. The accusative singular is one of the forms in which counted entities occur after certain numerals. Its use in quantifier constructions thus presupposes countability. On the system of numerals in Arabic cf. Reckendorf 1921: 203-213.

⁴⁸ Note that the construction *kam dahaban* with the accusative singular is not ungrammatical in Arabic; it simply has a different meaning ('how many goldpieces') relying on a second "noun of oneness" sense of 'goldpiece' which is obsolete now.

The plural of *laban^{un}* ('milk') (a synonym of the above-mentioned *ḥaliib^{un}*) means 'dairy products', a kind of "hyperonym" plural taking as a point of departure the basic or default MATERIAL ('milks' > 'things connected with milk'). This is a fairly common type; a further example is *xumuur^{un}* (plural of *xamr^{un}* 'wine': 'sorts of wine; alcoholic beverages in general').

The plural of *raml^{un}* ('sand') exemplifies a slightly different type; it means 'different configurations of sand (as in the desert)' and may also serve as a SORT plural ('kinds of sand').

The noun *maa'^{un}* ('water') has two plural forms, *'amwaah^{un}* and *miyaah^{un}*. The latter occurs in a host of conventionalized collocations such as *miyaah^{un} 'iqliimiyya^{tun}* ('territorial waters'), *miyaah^u l-amṭaarⁱ* ('rain water'), *miyaah^{un} ḡawfiyya^{tun}* ('ground water'), *ṣahriiḡ^u l-miyaahⁱ* ('water container'), *maasuurat^u l-miyaahⁱ* ('water pipe'), and many others. Both plural forms of 'water' may also have a SORT and an "abundance" interpretation (for the latter cf. also English *waters*, German *Gewässer*, *Wassermassen* ('deluge of waters')). The "abundance" interpretation is also characteristic of the plural of *dam^{un}* ('blood'), *dimaa'^{un}*, which is usually associated with bloodshed, severe injury or killing, cf. *ḡarat ad-dimaa'^u* ('much blood has been shed' (lit. 'the bloods have flown')) (SCH); *dimaa'^{un}* is also a juristic term meaning 'homicide cases', and so forth.

Note that liquids and fine MATERIALS, as far as we can see, never have a SHAPE interpretation, regardless of whether or not they have a plural. UNITS of measurement (CONTAINER nouns) must be provided to express countable portions in a CONTAINER: *talaat^{at} u fanaaḡiin^a qahwa^{tin}* ('three cups of coffee').

Most of the common metals (e.g. *fiḏḏat^{un}* ('silver'), *nuḥaas^{un}* ('copper'), *aluuminyuum^{un}* ('aluminum')) are treated like *dahab^{un}*. However, *ḥadiid^{un}* ('iron') and *ṣafiiḥ^{un}* ('tin') are different. The former has a regular singulative *ḥadiida^{tun}* ('piece of iron; object or tool made of iron'), which in turn forms a plural *ḥadaa'^{id}* ('pieces or objects of iron', but also 'iron parts of a structure; forgings; hardware; ironware') (WEHR-COWAN). Informants were somewhat reluctant to also permit a SORT interpretation of the singulative; they considered it possible but would prefer *naw'^u 'anwaa'^u l-ḥadiidⁱ* ('sort/sorts of iron'). The word for 'tin' shows a similar ternary distinction.

This pattern is characteristic of the type of number marking classified by Arabic linguists as "nouns of collective kinds" (class four of the above). These nouns have three number forms: (1) a basic (simplex) form which is a morphological singular and may refer to the SUBSTANCE, the kind or an indiscriminate plurality; (2) a derived singulative with the feminine suffix *-at-* denoting a single PIECE (→ SHAPE interpretation) of the same ontological category (e.g., MATERIAL); (3) a plural form denoting a plurality of single PIECES (→ SHAPE interpretation).

Semantic fields typically behaving this way are fruits, cereals, small animals, grained substances, eggs and the like, for example *qamḥ^{un}* ('wheat as substance; some wheat'), with the article *al-qamḥu* ('the species "wheat" generically; the specific amount of wheat known or mentioned'), singulative *qamḥ-a^{tun}* ('wheat kernel'), plural *qamḥ-aat^{un}* ('wheat kernels'). A

SORT interpretation is usually not common with the singulatives (cf. 'anwaa ^u l-qamhī ('sorts of wheat'); (they produced) talaata^{ta} 'anwaa ⁱⁿ min al-qamhī ('three sorts of wheat') (MM-AR)), though in some cases considered possible by the informants.⁴⁹ In addition to the semantic fields enumerated above, the same threefold pattern is also generally present in verbal abstracts, cf. darb^{un} ('hitting (EVENT)'), singulative darb-atun ('a blow (a single instance of the same EVENT)'), plural darabaat^{un} ('several blows').

Again, the semantic fields said to be typical for this ternary pattern do not show homogeneous behavior. The noun baqq^{un} ('bedbugs'), singulative baqq-atun ('a single bedbug'), plural baqq-aat^{un} ('several bedbugs') follows the pattern, while bur yuut^{un} ('flea') is a "noun of oneness" (plural baraa yit^u ('fleas')). The ternary pattern is, however, fully productive with verbal abstracts.

In Egyptian Arabic, the fourth noun class has dramatically increased. The singulative and its plural⁵⁰ in Egyptian Arabic express any kind of structured individuality, whether natural or artificial. For example, ramlā, singulative of raml ('sand'), may refer to 'a dune, a heap of sand piled up by a child on the beach, a sandy lot on the landscape'. The singulative of metals usually refers to a PIECE of raw MATERIAL but may also refer to a manufactured PIECE or (in plural) to several distinct PIECES of a metal in an ARTIFACT which is not entirely made of that metal. The singulative of 'izaaz ('glass') ('izaaza) means 'a piece or pane of glass, a glass cover or shield; a glass splinter' and is also conventionalized to 'bottle'. In a few cases, several types of SHAPE are distinguished by different morphological singulatives. For example, ḥagar ('stone (as substance); stones') has the singulative ḥagara ('a stone (as a natural formation)'), and ḥagaraaya ('a piece of stone broken off a larger one'). Unlike Standard Written Arabic, Cairene Arabic regularly uses the singulative and its plural in a SORT reading, cf. ramlā ('kind of sand') (in addition to the senses given above).

The main lexical fields characterized by this system are the following: metals and other mineral substances; fruits, plants and trees; insects, fish, birds and other small animals; groups of people⁵¹. In addition, there is a fair number of individual cases not belonging to any of these larger fields, which have a simplex referring to an unstructured mass or SUBSTANCE, and a countable singulative referring to a PIECE with SHAPE (or in plural to several PIECES with SHAPE) out of the mass: moog ('waves') - mooga ('a wave'), fiš ('chips, tokens (in games)') - fiša ('one chip'), makan ('machines, machinery') - makana ('a machine'); some expressions of time also belong here (leel ('night-time') - leela ('a night')).

There are several SHAPE-related shades of meaning that are not normally expressed by means of the singulative. There is a type of SHAPE-construction which must be constructed by

⁴⁹ In general, it seems that Standard Written Arabic is not very well equipped with a SORT interpretation of nouns denoting MATERIALS, but since the dictionaries available are generally silent on this point, much more corpus and informant research has to be done to substantiate this claim.

⁵⁰ Semantically, the plural member of the three-form set "simplex singular/singulative/plural" is always a plural of the singulative in that it indicates a multitude of units of which the singular singulative indicate one. From a morphological point of view, this is not necessarily so.

⁵¹ Singulatives of lexical forms denoting groups of people are formed with a different morphological type using the suffix -i.

means of a phrase containing a UNIT noun as its head: the "one-of-a-pair" construction (*gazma* ('(a pair of) shoes') - *fardit gazma* ('one shoe')). Furthermore, beverages and meals are usually invariable "nouns of kinds" in the classical sense; the portion in a CONTAINER is expressed by UNIT nouns rather than by the singulative in much the same way as in Standard Arabic: *'izaazit biira* ('a bottle of beer'), *fingaan 'ahwa* ('a cup of coffee'), whereby *biira* and *'ahwa* are constructed as modifiers of the UNIT nouns which function as heads.⁵² In contrast to Standard Arabic, however, foods and drinks can be directly counted without the insertion of a UNIT noun if the CONTAINER is a standard CONTAINER (e.g. 'cup', 'glass', 'portion', 'plate of' in the restaurant context); the construction is then appositive and identical with the construction normally used for counting weights, measures, money and the like:

- (142) *yaa sufragi! talaata 'ahwa/šaay/ħilba/saħlab/mhallabiyya...*
 'Waiter! Three coffees/teas/fenugreek juices/saleps/blancmanges...'
 (cf. *talaata kiilo/gneeh...* 'three kilos/pounds...')

4.2 Dahab as ATTRIBUTE in Nominal Phrases

4.2.1 Inventory of Constructions

Standard Arabic has an overtly derived denominal adjective *dahab-iyy^{un}*⁵³, regularly translated as 'golden' (cf. (143a, b)), and an adjectivally constructed passive participle *mudahhab^{un}* ('gilt, gilded'; from the causative verb *dahhaba* ('gild')), which is likewise occasionally translated as 'golden'⁵⁴ (cf. (143c, d)). In addition, the genitive of the simplex noun, *dahabⁱⁿ* (INDEF), *ad-dahabⁱ* (DEF), can be used as a nominal ATTRIBUTE⁵⁵ (cf. (143e, f)). Finally, the ATTRIBUTE can be expressed by a PP with the preposition *min* ('of, from'), which governs the genitive as all prepositions in Arabic do (cf. (143g, h)). The noun following the preposition can be indeterminate (*min dahabⁱⁿ*; lit. 'of gold') or determinate (*min ad-dahabⁱ*; lit. 'of the gold'). All modifiers - adjectives, genitives, and attached PPs - follow their heads. In a determinate noun phrase with an adjectival modifier both head and modifier take the article (cf. (143a)), while in a determinate noun phrase with a genitival modifier only the genitive takes the article (cf. (143b); cf. 4.1.2).

⁵² In the field of food, there is a dozen or so of conventionalized cases involving the use of UNIT nouns also for natural units, i.e. elements out of a set (e.g. *faşulya* ('beans'), *ħabbaayit faşulya* ('a bean')), though singulatives may also be heard in some of these cases.

⁵³ This extremely productive type of adjective formation by means of the suffix *-iyy-* is called a "nisba" in the philological tradition. We will henceforth use this term whenever it appears necessary to delimitate this from the participial adjective. The standard citation forms of adjectives are in the masculine singular. The other agreement forms of the adjective and the participle in question are: from *dahab-iyy^{un}*: masculine plural *dahab-iyyuun^a*, feminine singular *dahab-iyya^{um}*, feminine plural *dahab-iyyaat^{un}*; from *mudahhab^{un}*: masculine plural *mudahhabuun^a*, feminine singular *mudahhaba^{um}*, feminine plural *mudahhabaat^{un}*.

⁵⁴ There is also a participle *mudhab^{un}* from a different causative verb *'adhaba* ('gild'). This is synonymous to *mudahhab^{un}* and is therefore disregarded here.

⁵⁵ In the classical tradition this is called the "genitive of material" (cf. Reckendorf 1921: 141).

- (143) a. *ṭabaq^{un} dahabiyy^{un}*
 plate gold:ADJ
 'a golden plate'
- b. *at-ṭabaq^u d-dahabiyy^u*
 ART-plate ART-gold:ADJ
 'the golden plate'
- c. *ṭabaq^{un} mudahhab^{un}*
 plate gilt
 'a gilt/golden plate'
- d. *at-ṭabaq^u l-mudahhab^u*
 ART-plate ART-gilt
 'the gilt plate'
- e. *ṭabaq^u dahabⁱⁿ*
 plate gold:GEN
 'a plate of gold'
- f. *ṭabaq^u d-dahabⁱ*
 plate ART-gold:GEN
 'the plate of gold'
- g. *ṭabaq^{un} min dahabⁱⁿ*
 plate of gold:GEN
 'a plate of gold'
- h. *ṭabaq^{un} min ad-dahabⁱ*
 plate of ART-gold:GEN
 'a plate of [lit. the] gold'

The derived adjective is also present in Egyptian Arabic, in the form *dahabi*⁵⁶. It also occurs in a "learned" form *dahabi* (usually pronounced *zahabi*) in citations from Standard Arabic. There is also a participle *mudahhab* or *midahhab*⁵⁷ ('gilt, golden'). The "genitive", i.e. here the juxtaposed noun in postnominal position without a case suffix, can also be used as a nominal ATTRIBUTE.

On closer inspection, it turns out that Egyptian Arabic has a further attributive construction which is in part homophonous with the juxtapositive "genitive" construction but shows distinct behavior in certain morphosyntactic environments. Recall that nouns bearing the feminine suffix *-a* (= Standard Arabic *-a^{tun}*) change it to *-it* in front of the postposed morphologically unmarked "genitive" (cf.138)). Curiously enough, one encounters a lot of cases where this change does not take place when the second noun in a noun + noun combination is a member of the semantic field of MATERIALS (*dahab* ('gold'), *faḍḍa* ('silver'), *ḥadiid* ('iron'), etc.). Cf. the following:

⁵⁶ The other agreement forms are masculine plural *dahabiyyiin*, feminine singular *dahabiyya*, feminine plural *dahabiyyaat*.

⁵⁷ The other agreement forms are masculine plural *mudahhabiin*, feminine singular *mudahhaba*, feminine plural *mudahhabaat*.

- (144) a. 'it'it dahab (*'it'a dahab)
 piece gold
 'a piece of gold'
 b. dibla dahab (?diblit dahab)
 ring gold
 'a gold ring'

In indeterminate noun phrases the difference between a genuine "genitive" construction and the construction exemplified in (144b) can only be seen with feminine nouns with the ending *-a*. However, this construction is also differentiated from "genitive" constructions in determinate noun phrases and here the difference surfaces with masculine nouns as well. The determinate version of the construction in (144b) takes the article on both elements of the phrase (cf. (145b)), while the "genitive" construction, as we have already seen, takes it only on the modifier element (cf. also (145c, d) with the masculine noun *'ibziim*).

- (145) a. 'it'it id-dahab(*il-'it'a d-dahab)
 piece ART-gold
 'the piece of gold'
 b. **id**-dibla d-dahab (?diblit id-dahab)
 ART-ring ART-gold
 'the gold ring'
 c. 'ibziim dahab
 bracelet gold
 'a gold bracelet'
 d. **il**-'ibziim id-dahab
 ART-bracelet ART-gold
 'the gold bracelet'

Cf. also the following sentences volunteered by one informant to illustrate the constructional difference:

- (146) a. iddiini 'it'it **id-dahab** di
 give me piece ART-gold this
 'Give me this piece of gold!'
 b. iddiini id-dibla **d-dahab** di
 give me ART-ring ART-gold this
 'Give me this gold ring!'

One could say that the MATERIAL nouns occurring in this construction in certain respects behave syntactically like adjectives. Adjectives do not require the change of *-a* to *-it* with feminine nouns like "genitives" do. The double placement of the article both on the head and the modifier is also characteristic of adjectival syntax. All MATERIAL nouns permitted to occur in this construction also show an adjective-like behavior in the predicative position (cf. below). It is not too speculative to assume that this construction once branched off from the "genitive of material" construction, when Egyptian Arabic lost its case endings and the indeterminate "genitive" continued simply in juxtaposed form just like an adjective. Nevertheless, these appositive MATERIAL nouns do not exactly behave like bona fide adjectives in Arabic; for example, they do not show any sign of gender and number

agreement. In the context of this book we will follow the philological practice in calling the construction exemplified in (144a) and (145a) a "genitive construction", while for lack of an established term the pseudo-adjectival construction exemplified in (144b) and (145b) will be called "appositive"⁵⁸.

The constructional devices available to mark ATTRIBUTES within nominal phrases are summarized in the table below.

Table 5 ATTRIBUTE Constructions in Standard and Egyptian Arabic

Type of construction	Standard Arabic	Egyptian Arabic
adjectival construction	(a) nisba adjective: INDEF: N _{HEAD} <i>dahabiyy^{un}</i> _{MOD} DEF: <i>al-N_{HEAD} ad-dahabiyy^u</i> _{MOD} (b) participle: INDEF: N _{HEAD} <i>mudahhab^{un}</i> _{MOD} DEF: <i>al-N_{HEAD} al-mudahhab^u</i> _{MOD}	(a) nisba adjective INDEF: N _{HEAD} <i>dahabi/zahabi</i> _{MOD} DEF: <i>il-N_{HEAD} id-dahabi/iz-zahabi</i> _{MOD} (b) participle: INDEF: N _{HEAD} <i>mudahhab</i> _{MOD} DEF: <i>il-N_{HEAD} il-mudahhab</i> _{MOD}
genitive construction	INDEF: N _{HEAD} <i>dahabⁱⁿ</i> _{MOD} DEF: N _{HEAD} <i>ad-dahabⁱ</i> _{MOD}	INDEF: N _{HEAD} <i>dahab</i> _{MOD} DEF: N _{HEAD} <i>id-dahab</i> _{MOD}
appositive construction	-	INDEF: N _{HEAD} <i>dahab</i> _{MOD} DEF: <i>il-N_{HEAD} id-dahab</i> _{MOD}
PP construction	INDEF: N _{HEAD} <i>min dahabⁱⁿ</i> _{MOD} N _{HEAD} <i>min ad-dahabⁱ</i> _{MOD} DEF: - ⁵⁹	INDEF: N _{HEAD} <i>min dahab</i> _{MOD} - DEF: -

We will now turn to the discussion of the distribution of semantic head-modifier relations across the different construction types.

4.2.2 Adjectival and appositive constructions

In Standard Arabic, the "nisba" (cf. fn. 53) adjective *dahabiyy^{un}* regularly covers "MATERIAL = CONSTITUTIVE property" (cf. (147)) and "COLOR = FORMAL property" (cf. (148)), where it can be optionally supplemented by the genitive *al-lawnⁱ* ('of the color'); it also frequently occurs in the metaphorical sense of WORTH ('valuable, exemplary, admirable, exquisite, dear') (cf. (149)), and more rarely in certain types of "MATERIAL = ARGUMENT" contexts (cf. (150)) and with heads expressing FORMAL property (Mode of Appearance) (cf. (151)):

⁵⁸ We are not aware of any previous treatment of this interesting phenomenon in the literature on Egyptian Arabic.

⁵⁹ Bare PP attachment is not possible with definite heads. The relative pronoun has to be used in this case.

- Adjectival Construction in Standard Arabic

(147) M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL
 MM-AR: 'iwazz^{un} dahabiyy^{un} ('golden goose'), bayḍat^{un} dahabiyya^{tun} ('gold(en) egg'), ku'uus^{un} dahabiyya^{tun} ('gold cups'), nuquud^{un} dahabiyya^{tun} ('gold coins'), riiš^{un} dahabiyy^{un} ('golden feathers'), saa'a^{tun} dahabiyya^{tun} ('gold watch'), ṭabaqun dahabiyyun ('gold(en) plate/cover/shallow bowl'), tuffaaha^{tun} dahabiyya^{tun} ('gold(en) apple')
 Informants and other sources: 'asaawir^u dahabiyya^{tun} ('gold(en) bracelets'), 'iqd^{un} dahabiyy^{un} ('gold(en) necklace'), 'ulba^{tun} dahabiyya^{tun} ('gold box'), 'umla^{tun} dahabiyya^{tun} ('a gold coin'), ḥalaq^{un} dahabiyy^{un} ('gold earrings'), ḥizaam^{un} dahabiyy^{un} ('gold(en) belt'), madaaliya^(tun) dahabiyya^{tun} ('gold medal'), ruqaaqa^{tun} dahabiyya^{tun} ('gold foil'), silsila^{tun} dahabiyya^{tun} ('gold(en) chain'), sinn^{un} dahabiyya^{tun} ('gold teeth'), taağ^{un} dahabiyy^{un} ('gold(en) crown'), xaatim^{un} dahabiyy^{un} ('gold ring'), zirr^{un} dahabiyy^{un} ('gold button')

(148) M: COLOR = FORMAL property, H: ARTIFACT, MATERIAL, BODY PART, PLANT, etc.
 Informants and other sources: diik^{un} dahabiyy^{un} ('gold(-painted) rooster'), ḥalaq^{un} dahabiyy^{un} ('gold-colored earrings' - ambiguous between MATERIAL and COLOR sense), lawn^{un} dahabiyy^{un} ('gold color'), samak^{un} dahabiyy^u l-lawni ('a gold-colored fish'), ša'r^{un} dahabiyy^{un} ('golden hair'), xayṭ^{un} dahabiyy^{un} ('gold(-colored) thread')

(149) M: WORTH = ABSTRACT property, H: HUMAN, BODY PART, ABSTRACT, etc.⁶⁰
 Informants and dictionaries: kalimat^{un} dahabiyya^{tun} = kalaam^{un} dahabiyy^{un} ('a golden word (= a valuable/wise saying)'), lisaan^{un} dahabiyy^{un} ('golden tongue' (of someone who speaks well)), rağul^{un} dahabiyy^{un} ('a very valuable man'), al-'ašr^u d-dahabiyy^u ('the golden age'; conventionalized combination probably borrowed from European usage)

(150) M: MATERIAL = ARGUMENT, H: EVENT/STATE or STATE (Existence)
 MM-AR: al-'amaanii d-dahabiyya^{tu} ('the golden desires (i.e. desire, longing for gold)'), al-ğaziira^{tu} d-dahabiyya^{tu} ('the gold(en) island', i.e. an island where gold is found), al-lamsa^{tu} d-dahabiyya^{tu} ('the golden touch (of Midas: everything he touches turns to gold)'), nazra^{tun} dahabiyya^{tun} ('a golden look/glance/glimpse' (said of Uncle Scrooge overwhelmed by looking at huge quantities of gold⁶¹))

(151) M: MATERIAL, H: FORMAL property (Mode of Appearance)

MM-AR: kutla^{tun} dahabiyya^{tun} ('lump of gold')⁶²

Informant: qiṭ'at^{un} dahabiyya^{tun} ('piece of gold')

⁶⁰ This use is probably influenced by the spoken language and/or by borrowings from Standard European usage, as it is hardly attested in the classical language.

⁶¹ The context is: *šūfu!* 'eneen 'amm "dahab" fiiha nazra dahabiyya! ('Look! Uncle Scrooge has got a golden glance in his eyes!')

⁶² Attested in: *wa-ndafa'at al-kutlatu d-dahabiyyatu 'ilaa l-'ard* ('And the lump of gold crashed down to Earth').

The nisba adjective is not typical of arguments; the cases in (150) are exceptional (verbal nouns usually retain the argument marking devices of finite verbs, cf. below toward the end of this section). It never occurs with heads expressing TELIC or ABSTRACT property, these have to be expressed with the genitive (cf. below).

In Egyptian Arabic, the nisba adjective *dahabi* is used only in the COLOR and WORTH senses (cf. (152) and (153) respectively); in contrast to Standard Arabic it does not occur in the "MATERIAL = CONSTITUTIVE property" sense.

- Adjectival Construction in Egyptian Arabic

(152) M: COLOR = FORMAL property, H: ARTIFACT, MATERIAL, BODY PART, PLANT, etc.

MM-AR: loon dahabi ('gold color/paint')

Informants: diik dahabi ('golden rooster', i.e. gold-colored emblem), ḥala' dahabi ('gold-colored earrings', cf. ḥala' dahab ('gold earrings')), samak dahabi ('goldfish'), ša'r dahabi ('golden hair'), wara' dahabi ('gold-colored or gilt paper'), xeet dahabi ('golden thread'), zaraayir dahabiyya ('gold-colored buttons')

(153) M: WORTH = ABSTRACT property, H: HUMAN, BODY PART, ABSTRACT, etc.

Informants: kilma dahabiyya ('a golden (i.e. very wise) word'), kitaab dahabi ('a valuable book'), lisaan dahabi ('a golden tongue' (of a person who speaks well))

It may be noted in passing that the simplex noun does not have the COLOR sense. Thus, it is not possible to say **lawn^u dahabⁱⁿ* (Standard) or *loon dahab* (Egyptian)⁶³ or simply *dahab^{un}/dahab* for 'gold color'. This difference is beautifully exemplified by the following sentence from the MM-AR corpus:

(154) yaa xaṣaara, yaa 'amm "dahab", dool miš **dahab**,

VOC pity VOC Uncle Scrooge these not gold

ḥala' loonhum **dahabi** bass

tuned out their color gold:ADJ only

'What a pity, Uncle Scrooge, they're not gold, it turned out that their color is gold only.'

In the COLOR sense the nisba adjective alternates in both varieties with the 'gilt' participles (*mud^uahhab^{un}* and *mudahhab* respectively; cf. below). In Egyptian Arabic, the COLOR sense can also be expressed by attachment of a relative clause *loonu dahabi* ((and its feminine, plural, etc. counterparts) 'whose color (is) gold') (cf. (155)). The WORTH sense is also often alternatively expressed by *min dahab* ('of gold'), *zayy id-dahab* ('like gold') (cf. below on PP attachment) or by a small number of idiomaticized relative clauses (cf. (156)).

(155) diik loonu **dahabi**
roosterits color gold:ADJ
'a golden rooster'

⁶³ But *lawn^u d-dahabⁱ* ('the color of gold') with *dahab* in the MATERIAL reading is of course possible, cf. below.

- (156) a. raagil biyiwizzin **bi-d-dahab**
 man he is weighed with-ART-gold
 'a man to be weighed in gold (= very good person)'
 b. raagil yisaawi waznu **dahab**
 man he equals his weight gold
 'a man who costs his weight in gold (= same interpretation)'

In our Egyptian Arabic corpus there are a few examples of the use of the adjective in the "MATERIAL = CONSTITUTIVE property" sense which would seem to contradict the statements given above to the effect that Egyptian Arabic does not employ the adjective in this context in sharp contrast to Standard Arabic. Some of them are irrelevant since they are explicitly marked in the Arabic script as citations from the Standard language by the use of quotes and/or a dot over the Arabic letter *d* indicating the interdental pronunciation of the Standard language, as in (157):

- (157) ana 'andi "l-lamsa d-dahabiyya", yaa walad! law lamastak ḥatithawwil 'ila dahab!
 'I have "the golden touch", child! When I touch you, I will turn you to gold!' (MM-AR)

Apart from these cases, which can be dispensed with here, the corpus contains two further apparent counterexamples, viz *wizza/wizz dahabi* ('golden goose/geese') and *beed dahabi* ('golden eggs'); occasionally found for the more frequent *beed dahab* in the same text, a fairy tale about golden geese laying golden eggs). Both of them are interpretable as COLOR contexts, however, as at the end of the respective story it turns out that the geese and the eggs are not of solid gold but only gold-colored. These are not counterexamples either, then.

We can thus firmly establish that there is no incontestable attestation of the nisba adjective in the sense of "MATERIAL = CONSTITUTIVE property (SUBSTANCE)" in Egyptian Arabic. This is confirmed by the informants who regularly reject the use of the adjective for readings other than the COLOR and in a few examples also the WORTH sense. This does not come as a surprise, since the regular way to express "MATERIAL = CONSTITUTIVE property" is by means of the appositive construction:

- Appositive Construction in Egyptian Arabic

- (158) M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL
 MM-AR: *beeḍa/beeḍteen/beeḍ dahab* ('golden egg/2 golden eggs/golden eggs'), *filuus dahab* ('gold money'), *kursi dahab* ('gold chair'), *riiš dahab* ('golden feathers'), *sinna/'asnaan dahab* ('gold tooth/teeth'), *siriir dahab* ('gold bed'), *tiffaḥ(aay)a dahab* ('gold(en) apple'), *ṭaba' dahab/'aṭbaa' dahab* ('gold(en) plate(s)'), *ṭarabeeza dahab* ('gold table')
 Informants and other sources: *'ibziim dahab* ('type of gold bracelet'), *'isteek dahab* ('type of gold bracelet'), *'iswira dahab* ('type of gold bracelet'), *'umla dahab* ('gold coin'), *dibla dahab* ('gold engagement ring'), *gineeh dahab* ('gold sovereign'), *yiweeša dahab* ('type of gold bracelet'), *ḥala' dahab* ('gold earrings'), *ḥizaam dahab* ('gold(en) belt'), *ḥuruuf dahab* ('gold letters'), *saa'a dahab* ('gold watch'), *silsila dahab* ('gold(en) chain'), *taag dahab* ('gold(en) crown'), *wara' dahab* ('gold leaf'), *xaatim dahab* ('gold ring'), *zaraayir dahab* ('gold buttons')

Due to its bilingual (or "diglossic") nature, the MM corpus displays a considerable number of beautiful minimal pairs demonstrating the difference between Standard and Colloquial usage. For example, in one of the stories Goofy stumbles over a box filled with gold cups. According to the practice of having anything written on walls, papers, boxes, signs, etc., in the Standard language (this being the variety normally used for such purposes in the real world), the box bears the inscription "*ku'uus^{un} dahabiyya^{tun}*" ('golden cups') with the nisba adjective as expected. On the immediately following panel Goofy looks at the scattered cups and says "*Yaah! ku'uus dahab!*" ('Oh boy! Gold cups!') in the appositive construction as it is appropriate for Egyptian Arabic. Further minimal pairs of this sort found in the corpus include Standard *bayḍa^{tun} dahabiyya^{tun}* ('golden egg') vs. Egyptian *beeda dahab* ('id.'), Standard *tuffaaḥa^{tun} dahabiyya^{tun}* ('golden apple') vs. Egyptian *tiffaaḥa dahab* ('id.'), Standard *riiṣ^{un} dahabiyy^{un}* ('golden feathers') vs. Egyptian *riiṣa dahab* ('golden feather').

It should finally be noted that many of the collocations with the adjective in Standard Arabic are ambiguous between the MATERIAL and the COLOR readings, while in Egyptian Arabic these are always kept apart (cf. Standard Arabic *ḥalaq^{un} dahabiyya^{tun}* (ADJ) ('golden or gold-colored earrings') vs. Egyptian Arabic *ḥala' dahab* (APPOS) ('gold earrings')/*ḥala' dahabi* (ADJ) ('gold-colored earrings')).

In both Standard and Egyptian Arabic, the participle *mudahhab^{un}/mudahhab* is used in the senses 'gold-plated; covered with or as if with a thin coating of gold' and 'partially made of gold'⁶⁴ (cf. (159)), which is in keeping with its literal sense 'provided with gold' as a passive participle of a causative verb with ornative meaning:

- (159) Standard Arabic: *'azraar^{un} mudahhaba^{tun}* ('gilt buttons'), *'iṭaar^{un} mudahhab^{un}* ('gilt frame'), *ḥizaam^{un} mudahhab^{un}* ('a belt covered with a coating of gold, or partially made of gold, not of solid gold'), *ḥuruuf^{un} mudahhaba^{tun}* ('gilt letters')
 Egyptian Arabic: *'iṭaar mudahhab* ('gilt frame'), *ḥizaam midahhab* ('a belt partially made of gold'), *wara' mudahhab* ('gilt paper')

In addition, in both varieties the participle appears in the COLOR sense and is thus synonymous to the nisba adjective *dahabiyy^{un}/dahabi* in their COLOR reading ('gold-colored X', 'X shining like gold'). Informants repeatedly pointed out that the difference between these senses is not perceived by them as a very distinct one. It was said to be bridged by something like 'X having some gold on it and hence partially glittering like gold'. Nevertheless, the participle is often used to unequivocally denote gold coloring in a metaphorical sense. For example, in the literary language, *ša'run mudahhab^{un}* is the usual way of expressing the gold color of blond hair, though the nisba adjective is also used (cf. (148) above). Both of them occur side by side in the Standard Arabic translation of the Little Prince:

⁶⁴ The first of these senses ('gold-plated, covered with gold') may also be explicitly expressed by *maṭlⁱⁿ bi dahabⁱⁿ* ('covered/plated with gold').

(160) 'idaa ġaa'a 'ilaykum tiḥl^{un} ṣayyir^{un} duu ša'rⁱⁿ muḍahhabⁱⁿ...
 if came to you a child small having hair gilt
 'If a small child comes to you who has golden hair...' (LP E-6)

(161) wa-laakin laḍayka ša'r^{un} ašqar^u ḍahabiyy^{un}
 but on you hair blond golden
 'But you have gold blond hair.' (LP XXI-65)

In LP one also finds the expression *al-qamḥ^u l-muḍahhab^u* ('the golden grain') (compared to the COLOR of the Little Prince's hair). Egyptian Arabic prefers the nisba adjective for the COLOR of blond hair (*ša'r dahabi*), though a number of other examples of the COLOR reading of the participle were volunteered by the informants: *diik muḍahhab* ('gold-colored rooster', not necessarily having real gold on it), *samak midahhab* ('gold-colored fish'), etc.

4.2.3 Genitive Constructions

In Standard Arabic, the genitive occurs in the configurations "M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL", "M: MATERIAL = ARGUMENT₁, H: STATE (Existence)", "M: MATERIAL, H: TELIC OR ABSTRACT property", and "M: MATERIAL, H: FORMAL property (Mode of Appearance)".

- M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL

Example (162) shows the productive pattern; (a) with an indeterminate genitive indicating an indefinite head; (b) with a determinate genitive indicating a definite head; this is the "genitive of material" of the classical tradition.

(162) a. yabii'u saa'ata ḍahabⁱⁿ
 he sells watch gold:GEN
 'He's selling a gold watch.'
 b. 'a'tiinii dibla^{ta} ḍ-ḍahabⁱ haadihii (cf. (146b))
 give me ring ART-gold:GEN this
 'Give me this gold ring!'

In this reading, the genitive freely alternates with the nisba adjective: *saa'a^{tu} ḍahabⁱⁿ* - *saa'a^{tu} ḍahabiyya^{tu}*, etc.

- M: MATERIAL = ARGUMENT₁, H: STATE (Existence)

The following attestations are found in the corpus: *maṣaadir^u ḍ-ḍahabⁱ* ('the gold sources'; (always determinate)), *manġam^u ḍahabⁱⁿ* ('gold mine' (both indeterminate and determinate)), *ma'dan^u ḍahabⁱⁿ* ('gold mine', (archaic term (both indeterminate and determinate))), *wuġuudu ḍ-ḍahabⁱ* ('the presence of gold'; (always determinate)), *raṣiid^u ḍ-ḍahabⁱ* ('gold stock', (always determinate)), *qaa'ida^{tu} ḍ-ḍahabⁱ* ('gold currency', (always determinate)), *'amwaal^u ḍ-ḍahabⁱ*

('gold possessions' (always determinate)), *kanzu d-dahabi* ('gold treasure' (always determinate)). Alternation with the nisba adjective is not possible.

- M: MATERIAL, H: TELIC property

Two tokens: *maxzanu dahabin* ('storehouse for gold'), *miizaanu dahabin* ('gold balance'). Alternation with the nisba adjective is not possible, but the genitive may alter with a PP with the preposition *li-* ('for').

- M: MATERIAL, H: ABSTRACT property

The following relevant tokens were found in the corpus: *qiima^{tu} d-dahabi* ('the gold value'), *tamanu d-dahabi* ('the price of gold'), *ḡuuda^{tu} d-dahabi* ('the quality of gold'), *lawnu d-dahabi* ('the color of gold'), *yabsu d-dahabi* ('the dryness of gold'), *liinu d-dahabi* ('the softness of gold'), *laṭaafa^{tu} d-dahabi* ('the fineness of gold'), *ṣalaaba^{tu} d-dahabi* ('the hardness of gold'). Alternation with the nisba adjective is not possible except for COLOR. All the phrases attested in this group occur only in determinate form. This further strengthens our hypothesis that the modifier of a "M: MATERIAL, H: ABSTRACT property" constellation is a generic DISCOURSE REFERENT.

- M: MATERIAL, H: FORMAL property (Mode of Appearance)

We have the following attestations: *sabiika^{tu} dahabin* ('big gold nugget or gold ingot'), *qiṭ'a^{tu} dahabin* ('piece of gold'), *kutla^{tu} dahabin* ('lump of gold'), *irq^u dahabin* ('vein of gold'), *saama^{tu} dahabin* ('vein or seam of gold'), *tibr^u dahabin* ('gold dust'), *maa'u d-dahabi* ('gold lacquer'; (apparently always determinate)). Except for the latter, all of these phrases may be determinate or indeterminate. Variation between genitive and nisba adjective is occasionally found (of the constructions with PIECE nouns, the corpus offers *qiṭ'a^{tun} dahabiyyatun* and *kutla^{tun} dahabiyyatun*, though *sabiika^{tun} dahabiyyatun* was rejected by the informants). The conventionalized phrase *ruqaaqa^{tun} dahabiyyatun* ('gold leaf') is given in the dictionaries only in this form with the nisba adjective.

The genitive is not very frequently used in the role of a modifier of EVENTS or STATES, i.e. as a "rectional" modifier. We have *iktišaaḑu dahabin* ('discovery of gold') side by side with the more frequent *iktišaaḑu dahaban* in the accusative. The normal way of expressing arguments of nominalized verbs seems to be the retention of the argument structure of the finite verb (accusative, PP), cf. also the frequent *baḥiṭun 'an ad-dahabi* ('gold-seeker', (lit. 'seeker from the gold')) with the prepositional phrase retained from the finite verb (*baḥata 'an ad-dahabi*).

Turning now to Egyptian Arabic, we find a slightly different situation. The Standard Arabic genitive in phrases of the type "M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL" has largely been replaced by the appositive construction (cf. above). As we noted earlier, it stands to reason that the appositive construction historically developed from a genitive construction. A certain amount of variation can still be found. Thus, *tiffaḥa*

dahab ('golden apple') alternates with *tiffaahit dahab* in our material, likewise *ṣaxra dahab - ṣaxrit dahab* ('a gold rock'). However, the appositive construction is by far the more frequent one.

On the other hand, phrases of the type "M: MATERIAL, H: FORMAL property (Mode of Appearance)" are constructed throughout with the "genitive", as the following examples from the MM-AR corpus show:

- (163) a. *igmaʿu kull kotal id-dahab da!*
gather all lumps ART-gold this
'Take all these lumps of **gold** together!'
- b. *heh! di ʾiṭʾit dahab kibiira!*
hey this piece gold big
'Hey, this is a big piece of **gold**!'
- c. *sabaayik id-dahab mirammiyya fi kull makaan! wi tibr id-dahab zayy*
nuggets ART-gold scattered in every place and dust ART-gold like
turaab! wi kotal id-dahab kibiira zayy il-gibaal!
dust and lumps ART-gold big like ART-mountains
'The **gold** nuggets are scattered all over the place! And the **gold** dust is like dust! And the lumps of **gold** are as big as mountains!'

There is no difference between Standard Arabic and Egyptian Arabic with respect to the other semantic types of genitival ATTRIBUTES.

4.2.4 PP Constructions

The "partitive" PP with the preposition *min* ('of') can be attached as an ATTRIBUTE much in the same way as the adjective, the apposition, or the genitive. The PP construction with *min* is restricted in both varieties of Arabic to the semantic type of "M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL". There is thus threefold variation between the adjective in this sense (or, in Egyptian Arabic, the appositive construction), the "genitive of material", and the PP construction. Cf. Standard Arabic: *'asaawir^u dahabiyya^{tun} - 'asaawir^u dahabⁱⁿ - 'asaawir^u min dahabⁱⁿ* ('gold(en) bracelets'). In Egyptian Arabic (at least) the definite article on the modifying genitive is preferred to the indeterminate form. All informants agreed in that they could not find any difference between the adjective and the "genitive of material" constructions but that the PP construction was somewhat special. It was said to have a contrastive flavor, but we were unable to confirm this by clear examples from the corpus, except perhaps for the following, with a determinate modifier:

- (164) *'aziim, fiih kotal kibiira min id-dahab hina!*
great there is lumps big of ART-gold here
'Great! There are big lumps of **gold** here!'

Moreover, it was claimed that when the PP construction is used, the head has to be entirely of gold, while the other constructions also permit a reading of the object being partially of gold, cf. *ḥizaam^{un} min dahabⁱⁿ* ('a belt all of gold') vs. *ḥizaam^{un} dahabiyy^{un}* ('a belt all of gold or

gilt'), *taaġ^{un} min dahabⁱⁿ* ('a crown all of gold') vs. *taaġ^{un} dahabiyy^{un}* ('a crown all of gold or gilt'). Whether or not this a realistic interpretation has yet to be investigated.

In addition to "MATERIAL = CONSTITUTIVE property", the PP construction can also be used in the "WORTH = ABSTRACT property" sense, but not for COLOR. The WORTH sense is also often alternatively expressed by *zayy id-dahab* ('like gold'):

4.3 *Dahab* as an OBJECT with and without SHAPE

As in English, quantification and determination are the grammatical areas in which a distinction between OBJECT and QUALITY values is most prominently achieved. However, a number of significant typological differences between English and Arabic will become evident in this chapter.

First of all, both varieties of Arabic considered here lack the grammatical MASS/COUNT paradigm of English. As already pointed out in section 4.1, the noun class of "nouns of kind" in Classical and Standard Arabic most closely resembles the English MASS nouns, though this resemblance is reflected only in the lack of morphological number manipulation (no plural or singulative forms) and marginally in the syntactic behavior of certain quantifiers, though not in their morphological forms (there are no "exclusively "nouns of kind" quantifiers" as there are "exclusively MASS quantifiers" in English). It is not reflected at all in the system of determiners, which functions alike for all noun classes. Nevertheless, it has an impact on the countability of the nouns in question in that an immediate combination with numerals ("direct counting") is not possible with "nouns of kind".

Second, while both varieties of Arabic make extensive use of SHAPE indicators in the form of UNIT nouns (standardized units of measure, PIECE nouns, CONTAINER nouns), Egyptian Arabic has, in addition, a morphologically derived singulative noun with an inherent SHAPE value. Moreover, word senses of the simplex lexical form with an inherent lexicalized SHAPE value do not seem to exist (anymore).

Third, a striking typological difference between English and both varieties of Arabic can be seen in the employment of the definite article in QUALITY-specified NPS. This will be discussed in extenso in section 4.4, though it will already become evident as well in certain points of the discussion in this section. While English is characterized by a strong tendency to use forms without determiners for the configuration {QUALITY, DISCOURSE REFERENT}, not only is the opposite true for Arabic, but the indeterminate form is downright ungrammatical in this context. Moreover, the use of the article has been strongly extended from the area of {QUALITY, TOPIC} NPS into the area of {QUALITY, ATTRIBUTE} values.

4.3.1 Quantification

Direct quantification, i.e. the immediate combination of a numeral with a word form of *dahab^{un}*, was possible in earlier stages of Classical Arabic in the sense of 'goldpiece, gold coin used in the past as regular currency' but has become obsolete in the modern Standard language (cf. below). Thus, except in the now very rare sense of 'goldpiece' sometimes found

in examples from historical texts, direct quantification of *dahab^{un}* is ungrammatical. Bounded amounts of gold may, however, be quantified by standardized units of measure (MEASURE nouns). Moreover, gold UNITS may be quantified by means of UNIT nouns in the form of PIECE or CONTAINER nouns. Finally, a vague specification of an amount can be achieved by means of a fuzzy quantifier. With the exception of PIECE nouns, to which we will turn next in the discussion, the construction normally used for quantification is "(numeral) X *min ad-dahabⁱ*", X representing a standardized unit of measure, a CONTAINER noun, or a fuzzy quantifier, followed by the partitive preposition *min* ('of') + determinate genitive. Although grammars, dictionaries, and informants agree in that the indeterminate form may also be grammatical in amount phrases (but not in phrases with fuzzy quantifiers where the definite article is always obligatory), we have found no example of this in the corpus and none of the informants ever volunteered the indeterminate form in this construction without being explicitly asked to do so. This leads to the conclusion that for the average speaker an amount phrase construction is a bipartite construal whose second part bears the features of {DISCOURSE REFERENT, ATTRIBUTE, QUALITY}, with the values of the first (quantified) part being determined by the nature of the quantifiers and/or the text. This is in agreement with the general preference of the article-marked generic construction for all NON-PREDICATE QUALITY constellations (see below). The examples below demonstrate this construction for amount phrases with a standardized MEASURE noun (cf. (165a)) and a CONTAINER noun (cf. (165b)), both of them quantified by a numeral:

(165) Informants and other sources, Standard Arabic

- a. yuqaddaru tamanuhaa bi-talaata^{ti} kiluwaatⁱⁿ min **ad-dahabⁱ**
 amounts her price with-three kilogram of ART-gold
 'Its price is 3 kg of **gold**.'
- b. tamma l-'utuuru^u fii mayaara^{tin} 'alaa xamsa^{ti} 'akyaasⁱⁿ min **ad-dahabⁱ**
 happened ART-finding in cave on five bags of ART-gold
 'Five bags of **gold** were found in a cave.'

Quantified PIECE noun constructions also appear in the form "(numeral) X *min ad-dahabⁱ*", but at least for some of the PIECE nouns an alternative construction using the nisba adjective also seems possible (cf. (166)). We have already seen that the nisba adjective is responsible for the "MATERIAL = CONSTITUTIVE property (SUBSTANCE)" context with ARTIFACTS, but that it may also occasionally be used as a modifier indicating MATERIAL with "FORMAL property (Mode of Appearance)" heads. The semantic difference is obviously minimal since PIECES of solid material have the MATERIAL as their constituting property just like ARTIFACTS, the difference lying in the ontological nature of the head (for similar effects of this phenomenon on the alternative stress patterns in English cf. section 3.1).

(166) Informants, Standard Arabic

- a. ġaa'a ?bi-kutlataynⁱ dahabiyyataynⁱ / bi-kutlataynⁱ min **ad-dahabⁱ**
 he came with-lump:DUAL gold:ADJ:DUAL with-lump:DUAL of ART-gold
 'He came with two lumps of **gold**.'
- b. kam qit'a^{tan} dahabiyya^{tan} / qit'a^{tan} min **ad-dahabⁱ** fi-l-xaziina^{ti}?
 how many piece gold:ADJ piece of ART-gold in-ART-safe
 'How many pieces of **gold** are there in the safe?'

In (167) we present a number of examples of different types of fuzzy quantifiers. As in English and other languages, these are used without an explicit SHAPE-indicating noun and irrespective of the question of whether or not the gold talked about is S-T CONCRETE (cf. (167a)) or S-T ABSTRACT (cf. (167b, c)).

(167) a. Informant, Standard Arabic

fii l-qarnⁱ l-maadiyyⁱ tamma 'iktišaaf^u qadr^{an} kabiir^{an}
 in ART-century ART-past happened discovery amount large
 min **ad-dahabⁱ** fii "alaaskaa"
 of ART-gold in Alaska
 'Large quantities of **gold** were discovered in Alaska in the last century.'

b. Informant, Standard Arabic

a'ṭiinii qaliil^{an} min **ad-dahabⁱ**
 give me a little of ART-gold
 'Give me some **gold**!'

c. MM-AR, Standard Arabic

ba'da 'an nağma'a šay'an aaxara min **ad-dahabi** sanatruku l-madiinata
 after that we gather thing other of ART-gold we will leave ART-town
 'After we have gathered some more **gold**, we will leave the town.'

The Egyptian Arabic system is slightly different. First, it often uses the appositive construction in alternation with the PP construction (cf. (168)):

(168) MM-AR, Egyptian Arabic

itfaḍḍalu zugaaga lamunaada b-**raṭleen** **dahab!**
 please glass lemonade with-pound:DUAL gold
 'A glass of lemonade for **two pounds**⁶⁵ of gold, please!'

Furthermore, Egyptian Arabic may use its morphological singulative *dahaba/dahabaaya* in alternation with the semantically most empty UNIT nouns *'iṭ'a* or *ḥitta* ('piece'; the latter being more typical of the spoken language). Both alternatives are semantically equivalent according to the informants; a combination of the two (UNIT noun + appositive singulative) is also attested. *dahaba/dahabaaya* forms a regular plural *dahabaat* and can be directly counted with numerals:

(169) Informants, Egyptian Arabic

fiih 'arba' **dahabaat** / 'iṭa' **dahab** / **ḥitat dahab** fi ṭarabeezit iṣ-šaayiy
 there is four gold:SGLT:PL pieces gold pieces gold in table ART-goldsmith
 'There are four **pieces of gold** on the goldsmith's table.'

More on the singulative below.

⁶⁵ To be precise, *raṭl* is not exactly a pound, but a unit of weight equal to 449.28 grams (0.9905 lb).

4.3.2 Determination

The definite article appears whenever the NP contains a restrictive modification permitting the identification of an entity as a DISCOURSE REFERENT. There is no difference between Standard Arabic and Egyptian Arabic in this respect. The examples in (170) illustrate different types of restricted modification: relative clause (a), participle (b), demonstrative (c) (the article is obligatory with all demonstratives):

(170) a. MM-AR, Egyptian Arabic

ta'aalu sa'duuni yaa 'awlaad, wi ha'addim lukum waahid fil-miyya min
 come help me VOC children and I will give to you one percent of
id-dahab illi ha'tar 'aleeh!
 ART-gold REL I will find on it
 'Come help me, kids, and I will give you one percent of **the gold that I find!**'

b. MM-AR, Standard Arabic

laqad 'aada **d-dahab** l-masruuq^u yaa "duun diiguu"
 RESULT came back ART-gold ART-stolen VOC Don Diego
'The stolen gold is back, Don Diego!'

c. MM-AR, Egyptian Arabic

ana "gu'raan"! wi 'awzak tihfaz liyya **d-dahab da** 'andak
 I Gu'raan and I want you you keep for me ART-gold this with you
 kaam saa'a!
 some hour
 'I am Gu'raan! And I want you to keep **this gold** for me for a couple of hours!'

The article also appears with the universal quantifier *kull* ('all, every, etc.') (Egyptian Arabic form, for the Standard form cf. (139) in section 4.1.3), which is a noun governing a genitive (or a possessive suffix). Two constructions are in free alternation: the quantifier may be placed in front of the determinate form of the noun; this is exemplified by (171a). Or else, it may be placed after the determinate form and a possessive suffix in anaphorical relation to the quantified noun is attached to it (literally 'x, all of it' (cf. (171b))). The universal quantifier frequently occurs in combination with the demonstratives (cf. (171c)). The situation is exactly the same in Standard Arabic, the only difference being that the nouns are case-marked; we will therefore refrain from giving examples here.

(171).MM-AR, Egyptian Arabic

a. bi-sur'a! 'igma'u **kull id-dahab** wi ruşsuuh fi ş-şaruux!
 quick gather all ART-gold and store it in ART-rocket
 'Quick! Gather **all of the gold** and store it in the rocket!'

b. yumkin 'alaşaan **id-dahab kullu** aşbaḥ milki maa 'ada l-mangam da
 perhaps because ART-gold its all became my property except ART-mine this
 'Perhaps because **all the gold** has become my property except this mine.'

c. izzaay ḥan'il **id-dahab da kullu** min yeer kull in-naas ma ya'rifu?
 how I will transport ART-gold this its all without all ART-people that they know
 'How shall I transport **all that gold** without all the people realizing it?'

Another way of producing an identifiable DISCOURSE REFERENT is by means of a possessive construction. Example (172a) from Egyptian Arabic makes use of the special Egyptian possessive construction with the appositively postposed possessive dummy noun *bitaa* ' (possession)' (cf. fn. 45), to which the possessive suffixes are attached. This construction requires the definite article. As mentioned in 4.1.2, the definite article is not used when the possessive suffixes are immediately attached to the possessed noun, as is always the case in Standard Arabic (cf. 172b)) and alternatively in Egyptian Arabic (no example in the corpus).

(172).MM-AR, Egyptian Arabic

- a. *kunt b-istimraar batxaffi fi malaabis raagil biy'aggar il-mi'iiz*
 I was continuously I disguise myself in clothes man he rents ART-goats
 'alašaan axabbi **d-dahab bitaa'i** min il-lušuuş
 in order to I hide ART-gold my possession of ART-robbers
 'I was always disguising myself as a goatherd to hide **my gold** from the robbers.'
- b. *waqad yakuunu dahabuka min bayna l-masruuqaat*
 RESULT is your gold of among ART-stolen:PL
 '**Your gold** was among the loot, too.'

The majority of the corpus tokens of *dahab^{un}/dahab* with the definite article are TOPIC NPS continuing an aforementioned DISCOURSE REFERENT (about 60 occurrences). This comes as no surprise given the text type chosen for our sample (stories in which gold is the main subject). In all examples, reference is made to a certain quantity of gold (e.g. the gold found in a gold mine, gold nuggets gathered on the moon, etc.) which plays a central role in the respective story. It appears to be insignificant whether the NPS in question are used to refer to the SUBSTANCE as a shapeless mass or to a certain SHAPE. In (173b), for example, the referent is one single, gigantic nugget transported on a truck, while in (173c) it is all the gold distributed in different seams in a mountain, and in (173a) it is a collection of several gold objects. The following examples illustrate TOPICS in different syntactic positions: subject (a), object (b), existential construction within in a relative clause (c), PP (d), genitive (e). Note the anaphoric continuation in (a) and (e).

(173) MM-AR, Egyptian Arabic

- a. "nuunu", feen **id-dahab?** - xabbeetu
 Nunu where ART-gold I hid it
 'Nunu, where is **the gold?**' - 'I have **it** hidden.'
- b. xalaas! ti'dar tiwaşşal **id-dahab**, yaa "baţuut!"
 ready you can you bring there ART-gold VOC Donald
 'Ready! Now you can bring **the gold** in, Donald!'
- c. il-infigaar illi hadas kaşaf 'an gaanib kibiir min il-gabal
 ART-explosion REL happened uncovered from side big of ART-mountain
 fiih **id-dahab**, yaa "miiki!"
 in it ART-gold VOC Mickey
 'The explosion that happened unearthed a large part of the mountain where **the gold** was, Mickey'
- d. laazim ti'uul li-kull in-naas 'ala **d-dahab?**
 necessary you say to-all ART-people on ART-gold
 'Do you really have to tell everyone about **the gold?**'

- e. ta‘aalu nirga‘ lil-ḥadii‘a. yumkin ṣaahib **id-dahab** yirga‘ yiṣuufu
 come we return to ART-park it is possible owner ART-gold he comes back he sees it
 ‘Come on, let's go back to the park. Maybe the owner **of the gold** will come back to check upon it.’

4.3.3 Gold UNITS

As in English, UNIT nouns specifying the SHAPE of gold (PIECE nouns) or the CONTAINER (CONTAINER nouns) are not confined to combinations with numerals or quantifiers. The corpus offers a considerable number of examples where they occur with the definite article in the configuration of {DISCOURSE REFERENT, TOPIC} values, indicating the specific SHAPE of the MATERIAL talked about; cf. (174):

- (174) a. MM-AR, Egyptian Arabic
 igma‘u kull **kutal id-dahab** da!
 gather all lumps ART-gold these
 ‘Gather all these **lumps of gold** up!’
- b. MM-AR, Egyptian Arabic
 laakin yaa ‘amm "dahab", kaan il-makaan faaḍi maa ‘ada r-raagil
 but VOC Uncle Scrooge was ART-place empty except for ART-man
 illi aḥḍar **sabaayik id-dahab!**
 REL brought ingots ART-gold
 ‘But, Uncle Scrooge, the place was empty except for the man who brought **the ingots of gold!**’
- c. MM-AR, Standard Arabic
 wa-bi-sur‘a, ḥummilat ‘awwalu **qit‘a^{tin} min ad-dahabⁱ**
 and-with-speed was loaded first piece of ART-gold
 ‘And shortly after, the first **piece of gold** was loaded.’

Moreover, they are fairly frequent in NON-TOPIC environments, especially as ATTRIBUTES with putative NON-DISCOURSE REFERENT status.

- (175) a. MM-AR, Egyptian Arabic
 ana muta‘akkid innaha **kutal dahab ḍaxma** wi bitduur fil-faḍaa‘
 I sure that it lumps gold huge and they circulate in-ART-space
 il-xaarigi
 ART-outer
 ‘I'm sure that they are **huge lumps of gold** and that they orbit in outer space.’
- b. MM-AR, Egyptian Arabic
 ‘aziim, fiih **kutal kibiira min id-dahab** hina!
 great there is lumps big of ART-gold here
 ‘Great! There are **big lumps of gold** here!’
- c. MM-AR, Standard Arabic
 ‘a‘taahu **kiis^{an} min ad-dahabⁱ**
 he gave him bag of ART-gold
 ‘He gave him **a bag of gold.**’

As can be seen from the examples, a variety of constructions is in use here. While Standard Arabic shows a clear preference for the partitive PP construction with the definite article throughout different grammatical contexts, Egyptian Arabic seems to have a split insofar as the PP construction is preferred whenever the NP is extended by numerals (cf. above) or by further modifiers (cf. (175a), but (175b)), otherwise it prefers the genitive construction (cf. (174a, b)). Recall that the article on the "genitive" (i.e. the postposed nominal modifier) is not in the same way indicative of genericity as the article in the PP: a determinate NP indicates the definiteness of its head on the modifier (cf. 4.1.2); the occurrence of the article on the modifier does not therefore have any bearing on its definiteness status.

Interestingly enough, the number of the SHAPE-indicating UNIT constructions found in our corpus by far outranks the number of examples of the unquantified indeterminate form as complements of verbs. We will come back to this issue in section 4.4.

4.3.4 Gold ARTIFACTS and Other Potential UNIT Senses of *dahab^{un}/dahab*

It has been repeatedly pointed out in the foregoing discussion that the lexical family of *dahab^{un}* in Classical Arabic contained a sense 'goldpiece as a regular unit of currency, gold coin'. This was classified as a "noun of oneness" and is said in the dictionaries to have had three alternative plural forms *duhuub^{un}*, *duhbaan^{un}*, and *'adhaab^{un}*, of which the latter was a "paucal", i.e. a plural used with numbers below ten. In the modern Standard language, this sense has become obsolete. It may occasionally be encountered in historical texts, though, and speakers are aware of it as the following example volunteered by one informant to illustrate the different interpretations associated with different syntactic constructions of the interrogative quantifier *kam* ('how much/many') clearly demonstrates (for a detailed discussion of the two constructions the reader is referred to 4.1.3):

- (176) a. **kam** **dahab^{an}** tusaawii haadihi n-naaqat^u
 how many goldpiece is worth this ART-she-camel
 'How many goldpieces does this she-camel cost?'
- b. **kam** **min dahabⁱⁿ** / **min ad-dahabⁱ** tusaawii haadihi n-naaqat^u
 how much of gold of ART-gold is worth this ART-she-camel
 'How much gold does this she-camel cost?'

As explained in 4.1.3, the construction with the accusative singular in (176a) can only be interpreted as involving a "noun of oneness" with {OBJECT, SHAPE} values, since the accusative singular according to Arabic grammar is an equivalent of the plural with certain numerals and quantifiers. The genitive construction in (176b), on the other hand, unequivocally bears the feature of QUALITY.

Besides *dahab^{un}* in the sense of 'goldpiece', Classical Arabic used the unrelated noun *diinaar^{un}* ('gold coin'). The usual expression for a 'gold coin' in Modern Arabic is now *'umla^{tun} dahabiyya^{tun}* (Standard Arabic, with the nisba adjective attached to the noun *'umla^{tun}* ('coin')) and *'umla dahab* (Egyptian Arabic, with the appositive construction). A more specific alternative is Standard Arabic *ḡunayh^u dahabⁱⁿ* (lit. 'a pound of gold'), Egyptian

Arabic *gineeh dahab* ('gold sovereign'), this type of gold coin being the most widespread in the Near East.

None of the two varieties of Arabic has a sense '(one) gold jewel' for the simplex form *dahab^{un}/dahab*. The regular expression for this is *šii ya^{tun}* (Standard Arabic)/*šii ya* (Egyptian Arabic). Curiously enough, this word originally means 'shape'. In Egyptian Arabic, however, the simplex form *dahab* has a collective sense 'the collection of gold objects a bride possesses as part of her dowry'. Thus, in the conventionalized expression *ištareet id-dahab* ('I bought the gold (for her)') the determinate noun phrase refers to a collection of gold objects in this sense. For a detailed discussion of the "grinding" problem arising here the reader is referred to section 3.2, where a similar phenomenon in English is analyzed. The situation is slightly different in Egyptian Arabic since, according to one informant, the singulative may have a sense 'gold jewel of the bride', at least in the dialect of Upper Egypt (but apparently not in Cairo). This means that, in contrast to English, there is a conventionalized lexical unit with a UNIT sense within the family of *dahab* which could be taken to constitute the basis of a regular collective interpretation of the simplex form, but the case remains complicated given that dialect mixture also comes into play here.

There are no other UNIT senses of the simplex form *dahab^{un}/dahab*. The 'gold medal' is always expressed in its full form *madaaliya* (or *miidaaliya*) *dahabiyya^{tun}* (with the nisba adjective, which is also retained in Egyptian Arabic where this expression is treated as a loan from the Standard language). *Madaaliya* ('medal') is a "noun of oneness" forming a regular plural *madaaliyaat*. There are no other gold ARTIFACTS expressed by the simple form either.

4.3.5 The Egyptian Arabic Singulative

As explained in 4.1.3, Egyptian Arabic *dahab* belongs to a noun class ("nouns of collective kinds") characterized by a triple of forms:

- the simplex form (*dahab*), denoting a kind or an unspecified amount of entities lexicalized with an inherent SHAPE or an unspecified amount of an entity lexicalized without an inherent SHAPE;
- the singulative singular (*dahaba* or *dahabaaya*), denoting a single part/member of corresponding entities;
- the singulative plural (*dahabaat*), denoting a multitude of single parts/members of corresponding entities.

This noun class is much larger in Egyptian Arabic than in Modern Standard Arabic; for instance, all nouns denoting metals, which are treated in Standard Arabic as "noun of kinds", are in this class in Egyptian Arabic.

For the singulative *dahaba/dahabaaya* informants usually volunteer the meaning 'a single, usually small piece of raw (unprocessed) solid gold' (and a corresponding meaning for the plural form). The singulative cannot be used for gold in a CONTAINER, since singulatives generally do not have CONTAINER readings. The singulative is used for the enumeration of PIECES of gold (cf. example (169) above). It can, of course, also occur in all other contexts

where a SHAPE reading in the sense of a PIECE of the respective MATERIAL is indicated, as in (177).

(177) a. iddiini **d-dahabaaya** **di!**

give me ART-gold:SGLT this
'Give me **this piece of gold!**'

b. la'eet **dahabaaya** fi š-šari'

I found gold:SGLT in ART-street
'I found **a piece of gold** on the street.'

Despite the presence of the singulative, a UNIT of solid gold may also be expressed by a phrase containing a PIECE noun (*'it'a* or *hitta*), and this is quite often done. It is remarkable that we do not have a single attestation of the singulative in the corpus, but quite a lot of cases of the synonymous phrases with a PIECE noun (many of which are scattered in the examples given in this chapter). Informants do not seldom offer both variants when asked to translate sentences containing the phrase 'piece of gold':

(178) šuuf! wi'i' **dahabaaya** / 'it'it **dahab** / **hittit dahab** min geebu

look fell gold:SGLT piece gold piece gold of his pocket
'Look! **A piece of gold** fell out of his pocket!'

It has already been mentioned that in Upper Egypt, the singulative has an additional sense of 'gold artifact owned by the bride'. This is usually found in plural (in expressions such as *dahabaati* ('my gold objects'; (said by the bride)) or *dahabaat il-'aruusa* ('the gold objects of the bride')), but the singular form may also be used to express a single one of these gold objects. As mentioned above, the simplex form *dahab* may also be used to refer to the collection of these objects (*dahab-ha* ('her gold') = *dahabaat-ha* ('her gold objects')).

Otherwise, the simplex form may be used only to indicate a larger and more or less unspecified amount of raw PIECES of the MATERIAL. This meaning is always inherent in the simplex forms of "nouns of collective kinds" (cf. Table 4) and has nothing to do with grinding. An example of this is seen in (179).

(179) 'ala kull ḥaal miš laazim aḥtagg - aho bi-'iṣṭaad wi xalaas.

in any case not necessary that I complain here I am with-fishing and ready

'ala l-'a'all miš ḥa'dar armi **id-dahab iṣ-ṣuṣayyar** zayy maa kunt

at least not I will be able that I throw ART-gold ART-small like that I was

barmi is-samak iṣ-ṣuṣayyar

I throw ART-fish ART-small

'I definitely can't complain: after all I'm fishing again. At least I don't have to chuck **"the little gold"** (= the small pieces of gold) in again like I chucked the small fish in again.'

The "collective" use of the simplex form is not exactly synonymous to the plural form of the singulative. Outside the context of enumeration of PIECES, where the singulative is always obligatory unless a phrase with a PIECE noun is employed (even with the highest numbers, cf. *alf dahabaaya* ('thousand pieces of gold')), there is a tendency to use the plural of the

singulative when a smaller "surveyable" number is referred to, while the simplex in the collective reading is used when the amount remains unspecified. Much more research has to be done in this area, however, before definite statements can be given.

4.3.6 Gold SORTS

The simplex form *dahab^{un}/dahab* in Standard and Egyptian Arabic does not have a SORT reading. The Egyptian singulative *dahabaaya* does not have a SORT reading either, even though SORT interpretations are among the standard range of meanings of singulatives (cf. 4.1.3).

To express SORTS of gold, both languages use an explicit phrase with the noun *naw^{un}* (Standard Arabic)/*noo'* (Egyptian Arabic) ('sort, kind, type') as its head followed by a genitival modifier *dahabⁱⁿ* (Standard Arabic)/*dahab* (Egyptian Arabic) ('of gold')⁶⁶. The plural is *'anwaa'* (*un*). The entire expression is countable since *naw^{un}/noo'* is a "noun of oneness". As the examples in (180) show, the head may be further modified by an adjective, especially in the superlative.

(180) a. MM-AR, Egyptian Arabic

riiṣ zayy dii - dii bitilmah zayy 'aḥsan 'anwaa' id-dahab
feathers like this this shines like best sorts ART-gold
'Feathers like this, this one shines like **the best sorts of gold.**'

b. MM-AR, Standard Arabic

ḥaqībat^{un} fiihaa 'ayyinaat^{un} min 'aylaa 'anwaa'i d-dahabi
bag in it samples of most expensive sorts ART-gold
fii tilka l-'ayyaam
in those ART-days
'...a bag in which samples of **the most expensive kinds of gold** of those days were to be found'

In addition to this type of SORT expressions, there is a different type which constructs *dahab* as the head of a phrase with a following genitive, adjective, or relative clause as modifier. Some examples from Egyptian Arabic are: *dahab ḥa'ii'* ('real gold'), *dahab ṣaḥiiḥ* ('true/pure gold'), *dahab 'iyaar* ('21 karat gold'). As expected, these expressions behave grammatically like *dahab* itself.

It should be mentioned in passing that Classical and Standard Arabic are rich in special terms for gold sorts such as *tibr^{un}* (or *tibrat^{un}*) ('raw gold, gold dust, nuggets'), *'asḡad^{un}* ('(red) gold'), *nudaar^{un}* (also *nadiir^{un}* or *nadr^{un}*) ('pure gold'), *'iqyaan^{un}* ('pure gold'), *'ibriiz^{un}* ('pure gold'), *ṭiib^{un}* ('gold mixed with silver and copper'), and others. All these belong to the same noun class as *dahab^{un}* ('nouns of kinds') and exhibit the same grammatical behavior.

⁶⁶ The expression *ḡins^u d-dahabi* ('kind of gold') is also sometimes used.

4.3.7 Gold COLOR

As already pointed out, there is no COLOR sense of *dahab^{un}/dahab*. For the expression of gold color cf. 4.2.

4.4 *Dahab* from PREDICATE to Generic DISCOURSE REFERENTS

In the presentation of the Arabic data in this section we will follow a slightly different order from that employed in the corresponding English section. This reflects the typological difference between the two languages with respect to the use of the definite article in the realm of NPs with QUALITY value. While in English the entire domain under discussion is dominated by the bare NP, Arabic displays a gradual transition from "primary predicates", which are constructed exclusively with the indeterminate NP, to the classic generic cases where the article is obligatory.

4.4.1 *Dahab/dahab* as "Primary PREDICATE"

In all varieties of Arabic, nominals in the predicative position of ascriptive sentences appear in the indeterminate form. There is no copula in the affirmative present; the TOPIC and the nominal PREDICATE appear in juxtaposition next to each other in a fixed TOPIC-PREDICATE order; a personal pronoun may be optionally inserted between the two elements (cf. (181a)). In all other tenses of the affirmative and in all of the negative ascriptive sentences copula-like elements are used. Sentence (181b) is an example of the past tense with the 3rd person singular masculine of the verb *kaana* ('(he) was'); sentence (182) illustrates the negative copula *laysa*. In Standard Arabic, which has case endings, the affirmative present requires the predicate nominal in the nominative, while in all those cases in which the copula position is not empty the predicate nominal appears in the accusative (cf. (181b), (182))⁶⁷. There is no case morphology in Egyptian Arabic, hence the predicate nominal always remains unchanged in its indeterminate form (cf.183)).

(181) Informants, Standard Arabic

- a. haadaa (huwa) **dahab^{un}**
 this:MASC (he) gold:NOM
 'This is **gold**.'
- b. kaana haadaa **dahab^{an}**
 was this:MASC gold:ACC
 'This was **gold**.'

⁶⁷ The negative copula *laysa* also allows a different construction with the predicate nominal constructed as a PP with the preposition *bi-*, followed by the indeterminate form.

(182) SCH, Standard Arabic

laysa kull^u maa yalmayu **dahab^{an}**
 not is all which it glitters gold:ACC
 'Not all that glitters is **gold**.'

(183) MM-AR, Egyptian Arabic

- a. šuuf, da **dahab!** inta 'itirt 'ala mangan?
 look this gold you came across upon mine
 'Look, this is **gold**! Have you discovered a mine?'
 b. bass miš **dahab** - almaaz, šuuf!
 only not gold diamonds look
 'But it's not gold, it's diamonds, look!'

At the beginning of section 3.3 we enumerated four constellations in which English *gold* with or without a modifier can appear as an ascriptive predicate (cf. p. 65). The same constellations can be identified in Arabic. In the first three the property ascribed to the TOPIC of the predication is the property of representing the MATERIAL itself (or a specific SORT thereof). The TOPIC may refer to a portion of (as yet unidentified) material in the form of a deictic or anaphoric pronoun (cf. (181), (183a), (184a,b) - the pronoun can occasionally be omitted, cf. (183b), (185)), or it may mark a hypothetical entity (cf. (182)). Note that the English equivalent of a construction such as (183a), in which a positive assertion is made and *dahab* appears as a non-modified indeterminate form in the PREDICATE position, was not attested in the English corpora consulted (cf. p. 66). There are several tokens of this construction in our Arabic corpus, probably due to the specific text type, but the cases where *dahab* is modified by an adjective as in (184) are much more frequent here as well.

(184) MM-AR, Egyptian Arabic

- a. yaah! da **dahab kitir!**
 oh boy this gold much
 'Oh boy! This is **much gold**!'
 b. da **dahab šahiḥ**
 this gold proper
 'That's true/pure gold.'

(185) MM-AR, Standard Arabic

dahab^{un} ḥaqiiqiy^{un}! wa-ana ḍaaminuhu!
 gold true and-I guarantee it
 '(It is) **true gold**! And I guarantee for it!'

In the fourth of the constellations described on p. 65 the TOPIC refers to an ARTIFACT and the PREDICATE ascribes to this ARTIFACT the CONSTITUTIVE property of being made out of the MATERIAL named by the predicate nominal. Here the two varieties of Arabic diverge. Only Egyptian Arabic uses the indeterminate nominal in PREDICATE position in the sense of "MATERIAL = CONSTITUTIVE property (SUBSTANCE)". The following is a small selection out of an abundance of corpus tokens from MM-AR:

- (186) a. *yaah! il-beeḍa di dahab!*
 oh boy ART-egg this gold
 'Oh boy! This egg is **gold!**'
- b. *il-gabal kaan kullu dahab muzayyaf min yeer 'iima*
 ART-mountain was all of it gold fake without value
 'The mountain was all of **worthless fake gold.**'
- c. *tiftikir inn fihih wizz riišu dahab?*
 you believe that there is geese their feather gold
 'Do you believe there are geese whose feathers are **gold?**'

The indeterminate predicate nominal in Egyptian Arabic is thus ambiguous between a reading "property of representing a certain kind of MATERIAL" and "CONSTITUTIVE property (SUBSTANCE)". Consequently, an example such as the following from MM-AR (cf. (187)) is ambiguous out of context. The sentence is said by Little Bad Wolf amazed at detecting a gold fountain pen lying on his father's desk; the PREDICATE therefore clearly is to be interpreted in the sense of "CONSTITUTIVE property" here:

- (187) *aax! da dahab!*
 oh this gold
 'Oh! This is (made of) **gold!**'

Compare this with (183a) where precisely the same words are used by Mickey to identify a certain portion of raw material shown to him by Goofy who has just discovered a gold mine.

While Egyptian Arabic is like English in this respect, Standard Arabic resembles the German/Dutch type (cf. p. 66) in that it normally uses a "partitive" PP with the preposition *min* ('of, from') + *dahab* ('gold') (with or without the article, though the latter seems to be more frequent) for the "CONSTITUTIVE property (SUBSTANCE)" sense of PREDICATES ascribed to ARTIFACT TOPICS:

- (188) Informants, Standard Arabic
*wa-kaanat saa'atuhu min dahabⁱⁿ / min ad-dahabⁱ / *dahab^{un}*
 and-was his watch of gold / of ART-gold / gold
 'And his watch was (made of) gold.'

This difference between the two varieties of Arabic examined does not come as a surprise. We have already observed with respect to English that there are certain correlations between the formal devices used in the attributive position and those in the predicative position. In this context, it makes sense to assume that the Egyptian Arabic use of the indeterminate predicate nominal *dahab* in the "MATERIAL = CONSTITUTIVE property (SUBSTANCE)" sense is the predicative counterpart of the appositive construction dealt with in 4.2.2, which expresses exactly the same sense. Standard Arabic cannot be expected to use the indeterminate predicate nominal to express this sense, as it does not have a corresponding attributive construction. Simple juxtaposition of nouns as in Egyptian Arabic is a device unknown to Standard Arabic. It always has to mark syntactic relations explicitly by means of its case system. In the attributive position, the relation is established by the genitive, which bears the "CONSTITUTIVE property" sense ("genitive of material" in traditional terms). In the predicate position, a bare

genitive (without a nominal head) is not allowed to occur. The only case form that could be expected to occur here is the nominative (or accusative in certain constructions), but this, in turn, does not have the "CONSTITUTIVE property" sense. This strengthens our hypothesis advanced in 4.2.1 that the appositive construction is syntactically something quite different from the "genitive of material" even in present day Egyptian Arabic, although it is very likely that it split off historically from the latter, the split being made possible by the loss of the case system.

Yet the correlations between the predicative and the attributive positions are by no means one-to-one. The amount of variation found in the attributive context is hardly paralleled in the predicative position. In Standard Arabic, the nisba adjective seems to only marginally occur in the predicate position, even though it is the most frequent of the attributive constructions available (cf. 4.2). In the corpus, the adjective *dahabiyy^{un}* is not attested at all in the predicate position. Informants usually reject it in the sense of "MATERIAL = CONSTITUTIVE property (SUBSTANCE)", and there are only very few cases where it was volunteered by the informants in a different sense, such as in (189) (in the sense of 'gilded' or COLOR = FORMAL property):

(189) Informant, Standard Arabic

al-waraq^u **mudahhab^{un}/dahabiyy^{un}**

ART-paper gilt/ gold:Adj

'The paper is **gilt/gold-colored**.'

Otherwise, more complex constructions such as *lawnuhu dahabiyy^{un}* ('one whose color is gold') or the like are used in the COLOR = FORMAL property sense. Likewise, the PP rather than the adjective is regularly used in the sense of "WORTH as ABSTRACT PROPERTY", as in the following two proverb-like story titles:

(190) MM-AR, Standard Arabic

a. as-sukuut^u **mindahabⁱⁿ**

ART-silence of gold

'Silence is **gold**.'

b. al-waqt^u **mindahabⁱⁿ**

ART-time of gold

'Time is **gold**.' (= 'Time is money.')

As for Egyptian Arabic, informants usually claim that the indeterminate NP and the PP (in Egyptian Arabic *min (il-)X*) are equivalent so that there is free variation between *il-beeḍa di dahab* ('This egg is gold.') (cf. (186a)) and *il-beeḍa di min (id-)dahab* ('This egg is (of [the]) gold.') It has even been maintained that the difference between the two readings of English 'This is gold.' should be expressed by the difference between (1) *da dahab* ('This (substance) is (a specimen of the metal) gold.') and (2) *da min dahab* ('This (artifact) is (made of) gold.') - a claim which was not corroborated by the corpus evidence (cf. 183a) and (187)). In actual fact, we have not found any occurrence of the predicative PP in the sense of CONSTITUTIVE property ascribed to ARTIFACTS in the corpus, nor does it occur in examples of spontaneous informants' speech. There seems to be a discrepancy between a normative claim and actual usage here, though generalizations are perhaps premature given the size and nature of the corpus.

On the other hand, the PP regularly occurs in predicative position in the WORTH as ABSTRACT property sense, where any other construction type seems to be inappropriate except the construction with the comparative particle *zayy* ('like'):

(191) HINDS-BADAWI/Informants, Egyptian Arabic

- a. *lisaanu mindahab*
his tongue of gold
'His tongue is (of) **gold**.' (= 'His talk is very wise.')
- b. *'albu mindahab / zayy id-dahab*
his heart of gold / like ART-gold
'His heart is (of) **gold**/(like the) **gold**.' (= 'He has a heart of gold.')
- c. *ir-raagil da mu'amlitu zayy id-dahab*
ART-man this his conduct like ART-gold
'This man, his dealings are **like (the) gold**.'
(= 'This man is very honest in his dealings.')

Before concluding this section, let us briefly mention the fact that primary predicates may also consist of DISCOURSE REFERENTS. There are only a few examples in the corpus, all of which have demonstratives as subjects as in the following:

(192) MM-AR, Egyptian Arabic

- yaa 'amm "dahab", da kull id-dahab illi la'enaah fi-t-tilaal!*
VOC uncle Scrooge this all ART-gold REL we found it in-ART-hills
'Uncle Scrooge, this is all the gold that we found on the hills!'

Similar cases of generic DISCOURSE REFERENTS in predicate position will be discussed in section 4.4.

4.4.2 *Dahab/dahab* as "Secondary PREDICATE"

The Egyptian Arabic corpus contains a fair number of examples in which *dahab* is constructed as a "secondary predicate", which appears as a complement of one of two CHANGE-OF-STATE verbs *'ithawwil/yithawwil* ('to be transformed, be converted') and *ba'a/yib'a* ('to become'). The former governs a PP with the preposition *'ilaa* ('(in)to'), while in combination with the latter the secondary predicate occurs as an indeterminate complement. In both cases, the secondary predicate appears in the indeterminate form. The contexts in which these examples occur are strikingly similar to those found in the English corpus, even though the attestations come from different texts and are not translations of each other. As in the English examples, the vast majority of the corpus tokens are S-T-ABSTRACT; we have only one example of an S-T-CONCRETE occurrence (cf. (193a)). Except in this single case, the context is either habitual/universal (cf. (193b, c)), conditional (cf. (193d)), future (cf. (193d)), circumstantial (cf. (193e)), or negative (cf. (193f)).

(193) MM-AR, Egyptian Arabic

- a. *yaah! 'ithawwil 'ila dahab!*
for heaven's sake he has turned (in)to gold
'For heaven's sake! He's turned **to gold**!'

- b. kull ḥaaga kaan yilmisha kaanit tiḥawwil 'ila dahab
 every thing he was he touches it was it transforms (in)to gold
 'Everything he touched used to turn **into gold**.'
- c. 'eeh illi garaali? kull ḥaaga almisha tib'a dahab!
 What REL happened to me every thing I touch becomes gold
 'What is it that happened to me? Everything I touch becomes **gold**.'
- d. ana 'andi "l-lamsa d-dahabiyya", yaa walad! law lamastak ḥatithawwil
 I at me ART-touch ART-gold:ADJ VOC child if I touch you you will turn
 'ila dahab!
 (in)to gold
 'I have the "golden touch", my child! If I touch you, you will turn **to gold**!'
- e. mafiiš ḥadd ḥayirḍa yit'aamil ma'aana, aḥsan yithawwil
 there is not anyone he will be willing that he do business with me because that he is turned
 'ila dahab!
 (in)to gold
 'Nobody will be willing to do business with me anymore because he will be turned **into gold**!'
- f. šuuf! aho ma-ṭhawwilš 'ila dahab!
 look there he is he has not turned (in)to gold
 'Look! He hasn't turned **into gold**!'

4.4.3 Dahab/dahab in Existence Constructions

The regular way of asserting existence in Standard Arabic is by means of an inverted copulaless "nominal clause" with two juxtaposed nominals. The first of these is a locative expression, while the second names the entity whose existence in the location indicated in the first part is asserted (this will be referred to as the "subject" of the existence construction, which we will give the value of ATTRIBUTE here) (cf. (194a)). If the location is not otherwise specified, the locative pronoun *hunaaka* ('there') is inserted as an expletive element to occupy the first position (cf. (194b)). Alternatively, existence can be constructed in the form of a verbal clause with the verb *wuġida/yuuġadu* ('to find oneself, be found, exist'), with the entity whose existence is asserted constructed as the regular grammatical subject of this verb (cf. (194c)).

- (194) a. fi-l-xaziinatⁱ/ fi-ṭ-ṭaawilatⁱ / fi-l-ḥaqiibatⁱ dahab^{un}
 in-ART-safe in-ART-table / in-ART-bag gold
 'There is gold in the safe/on the table/in the bag.'
- b. hunaaka dahab^{un}
 there gold
 'There is gold (there/somewhere).'
- c. yuuġadu hunaa dahab^{un}
 finds itself here gold
 'There is gold here.'

Egyptian Arabic possesses an existence marker *fiih* ('there is'), neg. *mafiiš* ('there isn't'), which precedes the "subject" (cf. (195a, b)). The locative expression usually comes last, except where it consists of a pronominal particle, in which case it is often inserted immediately after *fiih* (cf. (195c)).

(195) MM-AR, Egyptian Arabic

- a. dahab! dahab! fiih **dahab** fil-'amar!
 gold gold there is gold in:ART-moon
 'Gold! Gold! There is **gold** on the moon!'
- b. wi l-'ahamm min kida inn mafišš **dahab** wara l-gabal
 and ART-more important of so that there isn't gold behind ART-mountain
 zayy maa 'aal lina!
 as that he said to us
 'And what is more important is that there isn't any **gold** behind the mountain as he told us!'
- c. ana mišš 'aarif leeh mafišš **dahab** il-'ayyaam di
 I NEG knowingwhy there isn't gold ART-days these
 'I don't know why there isn't anymore **gold** these days.'
- d. miin 'aal lak inn fiih hina **dahab**?
 who said to you that there is here gold
 'Who told you that there is **gold** here?'

The "subject" of the existence construction always appears in the indeterminate form in both varieties of Arabic. This is irrespective of whether it appears in an S-T-CONCRETE or in an S-T-ABSTRACT context. However, it can be precisely quantified by means of a standardized unit of measure (cf. (196)), in which case it bears the value of OBJECT rather than QUALITY or specified by a modifier (adjective, PP, relative clause, etc., pointing to fuzzy quantities or specific SORTS of gold (cf. (197), (198b, c))).

(196) Informant, Egyptian Arabic

- fiih **itneen kiilu dahab** fil-xazna
 there is two kg gold in:ART-safe
 'There are **two kg of gold** in the safe.'

(197) MM-AR, Egyptian Arabic

- ana mindihišš! ma'ʿuul fiih **dahab** bil-kammiyya di!
 I perplexed credible there is gold with:ART-quantitythis
 'I'm perplexed! Can it be that there is **gold** in such a quantity?'

"Subjects" of existence constructions are generally NON-DISCOURSE REFERENTS, but since the existence construction serves to introduce new DISCOURSE REFERENTS, it admits subsequent anaphorical reference, as shown in (198).

(198) MM-AR, Egyptian Arabic

- a. fiih hina **dahab**. ḥaawil tilmishu!
 there is here gold try you touch it
 'There's **gold** here. Try to touch it!'
- b. eeh da? il-makaan da kaan fiih **dahab** ṣaḥiiḥ, innama xalaṣ kullu!
 whatthis ART-place this was there is gold true but now it ran out all of it
 'What's that? There used to be real **gold** in this place, but now **it's** all gone!'

- c. law ištareet lina il-gihaaz il-‘ilmi ḥayi‘arrafna iza kaan
 if you bought to us ART-machine ART-scientific it will make us know whether was
 fiih **dahab** yistaahil innina nidawwar ‘aleeh walla laa’!
 there is gold it is worth that we we look for it or not
 'If you buy us the scientific machine it will inform us whether or not there is any **gold**
 worth looking for **it**.'

Constructions involving the prepositions *‘and-* ('at'), *ma‘aa-* ('with'), *wayyaa-* ('with'), etc. + possessive suffix in the sense of 'have' and their negative counterparts, as well as constructions with the prepositions *ma‘a X* ('with X' (in the sense of 'having X')) and *min yeer X* ('without X' (in the sense of 'not having/lacking X')) may be reckoned among the more elaborate types of existence constructions. Both formally and semantically they resemble the simple existence construction with *fiih*, including the "subject's" capability of being taken up by an anaphoric expression (cf. (199b)). Some examples are found below.

(199) MM-AR, Egyptian Arabic

- a. ‘andu **dahab** kitiir
 at him gold much
 'He possesses a lot of **gold**.'
- b. yaah! ma‘aana **dahab** kitiir, ta’’il iṣ-ṣaruux.. wi xallaah yaraz
 oh boy with us gold much it made heavy ART-rocket and it caused it it got stuck
 fiṣ-ṣuxuur!
 in:ART-rocks
 'Oh boy, we have so much **gold** with us that **it** made the rocket heavy and caused it to
 get stuck in the rocks!'
- c. wi n-naas bitirga‘ min yeer **dahab**!
 and ART-people they return without gold
 'And the people will come back without **gold**.'

We have one example with the definite article in the scope of an expression of existence, namely as a genitive attached to the verbal noun *wuguud* ('presence, existence' (nominalization of the verb *wuġidal/yuugadu* ('be found, exist') mentioned above)):

(200) MM-AR, Egyptian Arabic

- yi'dar yiktišif wuguud **id-dahab** fi ayy makaan
 it is able that it detects presence ART-gold in any place
 'It [i.e. the gold-finder machine] can detect the presence of gold anywhere.'

This, however, does not appear to be a counterexample to our claim that the entity whose existence is asserted is always indeterminate. Recall that Arabic has no means of exclusively determining the head of a genitive phrase while leaving the modifier undetermined. The only position where a determiner may appear in a genitive phrase is on the genitival modifier, and this usually indicates the determination of the entire phrase without any commitment to the status of the genitival modifier. It stands to reason that this is happening here: the article in front of the modifier *dahab* does not necessarily indicate the determination of *dahab* itself, but, rather, of the head *wuguud* (and thus the entire phrase).

4.4.4 Dahab/dahab as Direct or Prepositional Object of Verbs

It does not make sense in the present context to distinguish between direct and prepositional objects in Arabic, since the two do not show any differences in their formal behavior with respect to quantification and determination. The majority of the verbs in both varieties of Arabic investigated govern prepositional objects.

We will first discuss *Find* and *Search* verbs and then turn to the examination of dahab/dahab as arguments of other semantic types of verbs. The vast majority of the occurrences of dahab/dahab as arguments of verbs in the corpus were found to be arguments of *Find* and *Search* verbs. From this it cannot be inferred that dahab/dahab occurs predominantly as an object of these verbs; these combinations are so extremely numerous in our corpus for the simple reason that most of the texts deal with gold prospection during the gold rush. In the Egyptian Arabic part of the corpus the following verbs occurred:

- (201) *Find* verbs: *laa'alyilaa'i* ('find'), *'itir/yi'tar ('ala* ('find, come across'), *wagadlyagid* ('encounter, find, discover')
- Search* verbs: *dawwar/yidawwar 'ala* ('seek, search, look for'), *baḥat/yibḥat 'an* ('id.'), *kašaffiyikšif 'an* ('make an investigation'), *ḥašall/yiḥšal 'ala* ('obtain, get, seek, strive to come into possession of')

When classifying the examples, one is immediately struck by the fact that there is a regular - and apparently exceptionless - association between the indeterminate form of the object and *Find* verbs, and the determinate form of the object and *Search* verbs. There is one exception to this: a sentence where *dahab* as an object of a *Find* verb is to be interpreted as a previously established entity with the values {OBJECT, DISCOURSE REFERENT} ('Have you found the gold (namely, that which you had lost and were looking for)?'). This context always requires the determinate form, cf. 4.3.2. The examples given in (202) through (204) illustrate the difference in determination between objects of *Find* verbs and objects of *Search* verbs.

Find verbs:

(202) MM-AR, Egyptian Arabic

- a. 'amm "dahab", yizḥar innina la'eena **dahab** fit-tilaal
uncle Scrooge it seems that we we found gold in:ART-hills
'Uncle Scrooge, it seems that we've found **gold** on the hills.'
- b. **dahab**.. 'itru 'ala **dahab** fil-'amar!
gold they came across gold in:ART-moon
'**Gold**... they found **gold** on the moon!'
- c. naaxud ma'aana talat 'anabiib iḥtiyaati li'annu law wagad **dahab**
that we take with us threetanks precautionary because he if he found gold
miš ḥayirga' bi-suhuula!
not he will come back with-rapidity
'We'd better take three extra air tanks for if he finds **gold** he'll not come back quick!'

Search verbs:

(203) MM-AR, Egyptian Arabic

- a. inta miš ‘aarif inn il-’anuun biy’uul laazim il-kull yidawwar ‘ala
 you not knowing that ART-law it says necessary ART-every he searches on
d-dahab?
 ART-gold
 'Don't you know that the law says that everybody is allowed to search for **gold**?'
 b. huwwa kamaan biyibḥaṭ ‘an **id-dahab!**
 he also he searches from ART-gold
 'He's prospecting for **gold** too!'

(204) MM-AR, Standard Arabic

- kaana ‘amm^u "dahab" yulqii muḥaādara^{tan} ‘an ṭariiqatⁱ l-ḥuṣuulⁱ
 he was uncle Scrooge he gives speech:ACC from method:GEN ART-getting at:GEN
 ‘alaa **d-dahabⁱ** fii naadii l-kišaafa^{ti} lil-’ašbaali.
 on ART-gold in association ART-scouting to:ART-lion cubs
 'Uncle Scrooge was giving a talk on the method of **gold** prospecting to the Boy Scouts'
 Association of the Junior Woodchucks.'

The definite article also occurs on the inherited object argument of non-finite forms (nominalizations) of *Search* verbs:

- (205) a. yizhar inn **il-baḥṭ** ‘an **id-dahab** ḥaaga zariifa
 it seems that ART-prospection from ART-gold thing marvelous
 'It seems that **gold-prospecting** is a great thing.'
 b. šuuf, yaa ‘ammi "miiki", waahid min **il-baahitiin** ‘an **id-dahab!**
 look VOC uncle Mickey one of ART-searchers from ART-gold
 'Look, Uncle Mickey, one of the **gold prospectors**!'

The results of the corpus search were confirmed by the informants who unanimously claim that the indeterminate form of the object is ungrammatical with *Search* verbs, while it is the normal option with *Find* verbs. This striking regularity can be attributed to the fact - already discussed with reference to English in section 3.3 - that arguments of *Find* and *Search* verbs are associated with opposite values on the dimension of Spatio-Temporal Location, *Find* verbs showing a default association with S-T CONCRETE, and *Search* verbs a default association with S-T ABSTRACT: one finds, discovers, or comes across gold in the form of a certain spatio-temporally locable amount of the MATERIAL, but one generally looks for, prospects for, or tries to get at gold as a distinct type of MATERIAL.

Two fundamental formal differences between English and possibly all varieties of Arabic are worth mentioning here. First, the bare object NP *gold* in the S-T CONCRETE reading is comparatively rare in English, even in the context of *Find* verbs where it abounds in the Arabic examples. In English, S-T CONCRETE occurrences show a definite tendency toward explicit quantification; in the absence of a specific quantifier at least a fuzzy quantifier such as *some* is preferred (as in (108a)). Second, the bare NPS usually found with *Search* verbs in English correspond to NPS bearing the article in Arabic. These two differences are certainly

not independent of each other; they have to do with the different role of the article in the S-T ABSTRACT context. In English, this context is strongly associated with the bare NP. Even though English allows bare NPs in a S-T CONCRETE reading, it tends to obliterate the S-T ABSTRACT flavor connected with the use of bare NPs by adding quantifiers wherever possible. Hence, English has a tendency to be more specific in the S-T CONCRETE context. This is generally not necessary in Arabic; here it is the difference in determination that distinguishes the different values of Spatio-Temporal Location, the non-specifically quantified but potentially S-T CONCRETE case being marked by the indeterminate form with *Find* verbs, the S-T ABSTRACT case with Search verbs by the determinate form with the article in its "generic" reading (but cf. below for objects with other verbs).

The only other verbs with *dahab/dahab* as indeterminate NP objects attested in the entire corpus are the following three: *šaaf/yišuuf* (Egyptian Arabic) ('see'), *hada/yihdi* (Egyptian Arabic) ('give s.o. a present (of)' (with double object construction: recipient = 1st object, thing given = 2nd object)), *ihtağa/yahtağu* (Standard Arabic) ('need').

(206) MM-AR, Egyptian Arabic

yaah! hiyya di bilaad **id-dahab**.. wa-law inni miš šaayif **dahab**..
 oh boy she this:FEM land ART-gold and-if that I NEG seeing gold
 'Oh boy! Now this is the land of **gold**... though I haven't seen any gold so far...'

(207) MM-AR, Egyptian Arabic

aah law misikna, ḥayihdiina ḍarb miš **dahab**!
 oh if he catches us he will give us as a present beating NEG gold
 'Oh dear, if he catches us, we will get a beating as a present instead of **gold**!'

(208) MM-AR, Egyptian Arabic

ḥaṭṭa ihna il-muwaṭṭiniin il-'aadiyyiin "dahab" ahdaana
 even we ART-fellow citizens ART-ordinary Scrooge he gave us as a present
dahab niḥa''a' biih amaalna
 gold that we make come true with it our hopes
 'Even to us ordinary citizens did Scrooge give **gold** so that we could fulfill our hopes with it.'

(209) MM-AR, Standard Arabic

laqad 'arafnaa l-'aan: "kaašiilluu" yahtağu 'ilaa **dahab**ⁱⁿ
 EMPH we have known now Cuchillo he needs to gold:GEN
 'Now we know it: Cuchillo needs **gold**.'

One obviously does not often talk about manipulating or transferring an unbounded mass of gold. Actually we have only one transfer verb here, namely 'give as a present': 'see' is a perception verb semantically close to the *Find* verbs and thus obviously constituting a good context for a non-quantified object, while 'need' is semantically akin to having/existence. Moreover, the few examples of the non-quantified indeterminate form with verbs other than *Find* verbs are confined to non-episodic environments, i.e. they occur in negative or otherwise modally colored sentences (cf. (206), (207)); even (209), which is a corpus example, was considered odd by one informant, who would prefer a quantified NP here.

The only reasonable episodic example is (208), in which the indeterminate form without a quantifier is supported by the fact that the QUALITY reading of *dahab* is highlighted; it is not a specific quantity of gold but the MATERIAL as such that is in focus here as an ATTRIBUTE associated with 'giving as a present'. Nevertheless, it is not a DISCOURSE REFERENT. As expected, the configuration {QUALITY, ATTRIBUTE, S-T CONCRETE, NON-DISCOURSE REFERENT} is expressed formally by the indetermined NP. Apart from such contexts, one prefers explicitly quantified NPS in the object position of episodic manufacturing or transfer predicates, even if the object expressions are totally unspecific. At least a fuzzy quantifier such as Egyptian Arabic *šwayya* / Standard Arabic *qaliil^{an}*, (both 'a little'), should occur, but UNIT nouns are also rather frequent and regularly preferred by informants over non-quantified indeterminate NPS. A simple episodic sentence like (210a) was considered almost ungrammatical, while (210b) and (211) are fine. In light of this, the abundance of indeterminate *dahab* in the context of *Find* verbs seems almost like an exception. Again, it can be hypothesized that the preponderance of these examples is due to the particular topic of most of the stories in the corpus; in the context of gold prospecting people tell each other that they have discovered the stuff they were looking for rather than talking about specific shapes or quantities in which it occurs. This is also true of perception verbs such as 'see'.

(210) Informants, Standard Arabic

- a. *ʔaʔaahu ɖahab^{an}
 he gave him gold:ACC
 'He gave him gold.'
- b. ʔaʔaahu qaliil^{an} min ad-ɖahabⁱ
 he gave him a little of ART-gold:GEN
 'He gave him some gold.'

(211) Informants, Standard Arabic

- ǧaaʔa ɣariib^{un} ɥaamil^{un} ɥaɣiibat^{an} min ad-ɖahabⁱ
 he came stranger carrying bag:ACC of ART-gold:GEN
 'There came a stranger carrying a bag of gold.'

The quantifier phrases occurring in contexts such as (210b) and (211) are composed of two elements. The first is the quantifying element in the form of a fuzzy quantifier, a UNIT noun, a conventional UNIT of measurement, etc., which is the proper grammatical object of the verb. The second is a PP with the partitive preposition *min* ('of'), governing the determinate NP with the article. These determinate NPS are clearly generic, referring to the material as a "kind", from which a certain quantity is taken. We have already discussed this construction in 4.3. We may conclude that - similarly to what we found for English - *dahab/dahab* as a non-quantified indeterminate object is usually avoided, being replaced by a construction employing specific quantification composed of a quantifier and a partitive PP with a generic object. This tendency toward bounding is not as strong as in English, since in Arabic, indeterminate objects without specific quantification always come to the fore as soon as the QUALITY reading is highlighted in a S-T CONCRETE environment, and the indeterminate NP is the usual mode of appearance of a non-specific NP in non-factual modalities, where Arabic does not need quantifiers such as English *any*.

Not directly from our corpus but from the Koran comes an example of a verb which is exclusively used with a determinate object in a "generic" reading like those of the *Search* verbs:

- (212) 'inna l-ladiina yaknizuuna d-dahaba wa-l-fiḍḍata (Sura 9:34)
 EMPH REL hoard up ART-gold:ACC and-ART-silver:ACC
 'those who hoard up gold and silver'

Let us finally come to those uses in which *dahab/dahab* as MATERIAL is employed in the treatment of other ARTIFACTS or MATERIALS. Several constructions are attested. The most frequent one in both varieties involves a PP with the instrumental preposition *bi-*⁶⁸ ('with'), the noun being in the determinate form with the article and without a quantifier. (213) is an example.

- (213) MM-AR, Egyptian Arabic
 'abl ma yiktišif innu yiliṭ wi rašaf šaari' il-midiina **bi-d-dahab!**
 before he discovers that he made a mistake and paved street ART-city with-ART-gold
 '...before he discovers that he paved the city's main street **with gold** by mistake'

As in English, this construction is predominantly found with a verb in the passive or with a passive participle. The following cases are attested (note that all of them have *dahab/dahab* in the MATERIAL sense; it cannot be used in the COLOR sense as in the English examples (112b), (113c)):

- (214) Egyptian Arabic: *rašaf/yuršuf bi-d-dahab* ('pave with gold'), participle *maršuuf bi-d-dahab* ('paved with gold'); *muzaxraf bi-d-dahab* ('ornamented with gold'); *mit yaṭṭi bi-d-dahab* ('covered with gold');
 Standard Arabic: *maršuuf^{un} bi-d-dahabⁱ* ('paved with gold') *maṭliⁿ bi-d-dahabⁱ* ('gilded, plated with gold'), *muzaxraf^{un} bi-d-dahabⁱ* ('ornamented with gold'); *muṭarraz^{un} bi-d-dahabⁱ* ('embroidered with gold'), *mumawwah^{un} bi-d-dahab⁶⁹* ('plated with gold'), *muṭallaⁿ bi-d-dahabⁱ* ('plated with gold').

Two other constructions occur marginally in the Standard Arabic part of the corpus. There is one case where the object of the instrumental preposition *bi-* is an indeterminate verbal abstract followed by a PP with *min* ('of') + indeterminate *dahab*: *muwaššaⁿ bi-tiraazⁱⁿ min dahabⁱⁿ* ('embroidered with gold' (lit. 'ornamented with embroidery of gold')). Finally, there are two different equivalents of English 'dressed in gold'. One is a finite verb form of *irtadaa/yartadii* ('to be dressed in, to wear') which takes an accusative object. In this example, 'gold' appears in the indeterminate form: *yartadii dahab^{an}* ('he is dressed in gold'). In the second example, the verbal noun *ridaa^{un}* ('clothing') appears as the subject of an ascriptive sentence whose predicate is a PP consisting of *min* + determinate form (for this type of predicate cf. 4.4.1):

⁶⁸ The preposition *bi-* is one of a number of monosyllabic (CV) prepositions traditionally considered as prefixes, hence the hyphen.

⁶⁹ This is also attested with the indeterminate PP: *mumawwah^{un} bi-dahabⁱⁿ*.

- (215) *kaana ridaa'uhu min ad-dahabⁱ*
 it was his clothing of ART-gold
 'He was dressed in gold.' (lit. 'his clothes were of (the) gold')

4.4.5 *Dahab/dahab* in Constructions of Comparison

The NP marking the standard of comparison in constructions of comparison is immediately preceded by comparative particles (equivalents of English *as*, *like*, *than*) or comparative verbs (equivalents of English verbs such as *resemble*, *look like*, etc.). It has not gone unnoticed in the literature on Classical Arabic (e.g. Reckendorf 1898 : 184, 1921 : 180) that the standard of comparison NP is almost always provided with the article (cf. (216)). Moreover, in cases where the standard of comparison is an entire clause, indefinite NPS within this clause also strongly tend to be marked with the article (cf. (217)). In this example, the standard of comparison is the whole idea of 'carrying a mountain' rather than the mountain itself.

- (216) *ka-maṭalⁱ l-ḥimaa^{ri} yaḥmilu 'asfaa^{an}*
 like-likeness ART-donkey:GEN he carries books:ACC
 'like a (lit. the) donkey carrying books'

- (217) *ka-'annamaa yaḥmiluuna l-ḡabal^a*
 like-that they carry ART-mountain:ACC
 'as if they were carrying a (lit. the) mountain'

This system seems to be inherited into the modern varieties of Arabic. It is not surprising, then, that all corpus tokens of *dahab/dahab* in comparison constructions of any kind bear the definite article. Some examples follow. (218) exemplifies the normal Egyptian Arabic comparison particle *zayy* ('like'), with *dahab* in (218a) in the MATERIAL sense and in (218b) in the WORTH sense. (219) shows determinate *dahab* as the object of the transitive verb *yišbah* ('resemble, bear a similarity to, look like'). The next two examples are from Standard Arabic and demonstrate its comparison particle *ka-*, typically prefixed to the following NP. (221), which was given as a translation of one of our English BNC examples, shows *dahab* modified by an attribute (the active participle of *saala/yasiilu* ('flow') in adjectival function with the meaning of 'liquid').

- (218) MM-AR, Egyptian Arabic
 a. *biyilmaḥ zayy id-dahab*
 it shines like ART-gold
 'It glitters like gold.'
 b. *'albu zayy id-dahab*
 his heart like ART-gold
 'He has a heart of gold.' (lit. 'his heart is like the gold')

- (219) *istannu, miš milahẓiin inn ir-raml fiih ḥaaga btilma'ʔ ḥaaga suḡayyara*
 wait:PL NEG noticing:PL that ART-sand in it thing it shines thing small
tišbah id-dahab?
 it resembles ART-gold

'Wait! Haven't you guys noticed that there is something shiny in the sand? Something small that **looks like gold?**'

(220) LP, Standard Arabic

kaana r-riibaat^u aṣfar^a **ka-d-dahabⁱ**
 he was ART-ribbon yellow like-ART-gold
 'The ribbon was golden-yellow (lit. yellow **like the gold**).'

(221) Informant, Standard Arabic

'aynaaki talma'aani **ka-d-dahabⁱ s-saa'ilⁱ**
 your (FEM) eyes they gleam like-ART-gold ART-liquid
 'Your eyes are gleaming **like liquid gold**.'

In both varieties examined, the strong statistical preference in the corpus for the definite article in constructions of comparison does not only show up in the case of *dahab/dahab*. In actual fact, the definite article is the usual means of marking the standard of comparison. There seem to be very few exceptions indeed; so far we have come across only one instance of an indeterminate form in a construction of comparison: *zayy turaab* ('like dust') in example (163c).

Constructions involving the comparative form of the adjective + a PP with *min* ('of') in the function of 'than' are treated in precisely the same way. The standard of comparison always bears the definite article:

(222) MM-AR, Standard Arabic

laysa hunaaka šay'^{un} 'aḥsan^a **min ad-dahabⁱ**
 it is not there thing more beautiful of ART-gold
 'There is nothing more beautiful **than gold**.'

(223) MM-AR, Egyptian Arabic

dilwa'ti laazim nilaa'i mayya, di 'ahamm **min id-dahab**
 now necessary that we find water this more important of ART-gold
 'Now we have to find water, this is more important **than gold**.'

We have already pointed to the fact that languages, if they make a formal distinction between generic DISCOURSE REFERENTS and unbounded (undetermined and unquantified) but spatio-temporally existing entities, usually show a tendency toward exclusively using either the one or the other of these devices to mark the standard of comparison (cf. 4.4). As shown in the following section, Arabic uses the definite article for the marking of "prototypical" generic NPs. It may be noted in passing that traditional Arab grammarians (including the medieval "national grammarians") have no problem identifying the article-marked standards of comparison as "generics".

4.4.6 Dahab/dahab as a Generic DISCOURSE REFERENT

Genericity in the classic sense, i.e. a kind-referring subject or object NP that must be interpreted with the values of {DISCOURSE REFERENT, S-T ABSTRACT, QUALITY}, is exclusively marked with the definite article in all varieties of Arabic. The generic interpretation of the article was one of the central topics of medieval Arab national grammarians who called it *laam^u l-ğinsi* ('the article of kind') and contrasted it with *ta'riif^u l-'ahdⁱ* ('determination by agreement' (by which they meant agreement between speaker and hearer with respect to the definite interpretation of an NP in the discourse)).⁷⁰ Grammarians amassed an abundance of examples from the classical literature and developed a rich terminology for the distinction of several subcategories of the "article of kind". In our context, it may be worth mentioning that they made a basic distinction between the use of the "article of kind" with "nouns of oneness", where single individuals are picked out as "representatives of their kind", and the use of the "article of kind" with "nouns of kind" (for the noun class terms see 4.1.1). The former allow the "article of kind" to occur with all numbers (singular, dual, plural), though singular clearly predominates in the examples. In the latter, the article is combined with the singular. This use is called "determination of quality" (*ta'riif^u l-maahiyyatⁱ*); the example *ad-dahabu* ('gold (generic)') is explicitly presented as a prototypical instance (see Reckendorf 1921:180).

The classical system continues into Modern Standard Arabic without significant changes. Before discussing our corpus evidence for generic gold let us briefly depict the main characteristics of this system. A number of prototypical generic NPS are exemplified below from our Little Prince corpus:

- (224) a. hal ḥaqqiqa^{tun} 'akiida^{tun} 'anna **l-xirfaan^a** ta'kulu **l-ğanbaatⁱ**?
 Q reality certain that ART-sheep they eat ART-shrubs
 'Is it definitely true that **sheep** eat **little bushes**?' (LP V-5)
- b. bi-t-taaliyyⁱ fa-'innahaa ta'kulu **l-baa'uubaab**
 consequently and-that they they eat ART-baobab
 'Consequently, they also eat **baobabs**.' (LP V-10)
- c. 'inna **l-baa'uubaab** bada'at ṣayyira^{tun} qabla 'an tanmuwa wa-takbura
 INT ART-baobab begin small before that they grow and-become big
 '**Baobabs** begin small before they grow and get big.' (LP V-15)
- d. 'idaa kaana **l-xaruuf^u** ya'kulu **l-ğanbaatⁱ**, fa-hal ya'kulu **l-ward^a** 'aydan?
 if it was ART-sheep it eats ART-shrub and-Q it eats ART-flower also
 'If a **sheep** eats **little bushes**, does it eat **flowers**, too?' (LP VII-3)
- e. 'inna **l-xaruuf^a** ya'kulu kulla maa yuṣaadifuhu (LP VII-4)
 INT ART-sheep it eats all what it encounters it
 'A **sheep** eats everything it finds.'
- f. ḥattaa **l-wuruud^a** daata š-šawkⁱ? (LP VII-5)
 even ART-flowers having ART-thorn
 'Even **flowers** with **thorns**?'

⁷⁰ Cf. Reckendorf 1921:180-184. A more recent treatment is Drozdík (1970). It is interesting to note that Arab grammarians described generic expressions (*duu t-ta'riifi l-ğinsiyyi* ('those provided with the article of kind')) as 'coming close to indefinite expressions' (*qad qaruba min an-nakirati*).

(224) presents a sequence of generic sentences. Not all of them appear immediately adjacent to each other, but all continue the same discourse topic and the NPS contained in them are clearly DISCOURSE REFERENTS in the sense defined in 2.3.1. (224a) exemplifies a generic subject in the determinate plural ('sheep'), followed by a generic object of a habitually interpreted verb in the present tense ('usually eat'); likewise in the determinate plural ('little bushes'). In (224b), the uninflected loanword 'baobab' appears as the determinate object of the same verb 'eat'; for the system of Arabic this is a number-neutral but formally singular 'noun of kind'. This NP is taken up as the subject of (224c) a few sentences later. The next example (cf. (224d)) is a conditional sentence; in its protasis the translator changes to the determinate singular to render the French indefinite generic *un mouton*⁷¹. This is fairly typical, as we shall see directly; Arabic does not possess indefinite generics, and the determinate singular is the most frequent means of rendering such expressions in translations: a second example of this practice is the subject of (224e). The noun *ward^{un}* ('flowers') in the apodosis of (224d) is a 'noun of collective kind' (cf. 4.1.1), whose basic form is a morphological singular. Such nouns systematically have three possible interpretations: they may denote a kind, an unspecified amount of entities lexicalized with an inherent SHAPE, or an unspecified amount of an entity lexicalized without an inherent SHAPE. In generic expressions such as the one at hand, they assume the 'kind' interpretation. Like all 'nouns of collective kind' the noun *ward^{un}* has a corresponding singulative *warda^{tun}* ('a single flower'), which does not appear in generic expressions. However, the plural *wuruud^{un}* appears as a generic object in the elliptic sentence (cf. (224f)) in a SORT reading. Finally, (224f) contains a generic genitive *aš-šawki* ('of thorns') dependent on the attributive element *duu* masc./*daatu* fem. ('having, equipped with').

Arabic does not appear to have indeterminate forms with a generic reading like those found in many European languages (e.g. (224d and e)). Our collection contains quite a lot of potential candidates from several corpora, e.g. sentences from MM-AR or LP where English, German, and often even French have generic NPS with the indefinite article. We have also asked informants to translate English or German sentences with indefinite generics into Arabic. In not a single case do we find anything similar to an indefinite generic, e.g. the generic use of the indeterminate form without the article or the use of the numeral 'one' (Standard Arabic *'ahad^u*, Egyptian Arabic *waahid*) or any other kind of indefinite determiner. If the translator operates with a generic NP at all rather than circumventing the problem by using a completely different mode of expression, the generic NP always bears the definite article, chiefly, but not exclusively (cf. (226)), with the singular. This is particularly striking in hypothetical (cf. (224d), (225), (226), (227)) and/or quantificational (cf. (226)) contexts, as well as in expressions referring to a genuine, proper, prototypical member of a kind (cf. (227), (228), (229)), since it is in these three contexts that indefinite generics are typically found in many European languages.

⁷¹ The original sentence is as follows: *Un mouton, s'il mange les arbustes, il mange aussi les fleurs?* The English translation has: *A sheep - if it eats little bushes, does it eat flowers, too?*

- (225) wa-‘indamaa yaktašifu **l-falakiyy**^u waahid^{an} minhaa fa-‘innahu yuḥaddiduhaa
 and-when he discovers ART-geographer one of them and-INT he defines it
 bi-raqmin yumiizuhaa bihi ka-n-nayzak 3251 mataalan (LP IV-5)
 with-number he marks it with it like-ART-asteroid 3251 for example
 'And when a **geographer** discovers one of them, he defines it by marking it with a
 number, such as "asteroid 3251", for example.'
- (226) tastaṭii‘u **l-kilaabu** ‘an ta‘iīša ‘išriin^a sana^{tan} (Informant)
 they are able ART-dogs that they live twenty years
 'Dogs/A dog may live up to twenty years.'
- (227) laa yumkinunaa ‘an nantazira min **al-‘asad**ⁱ ‘an yakuuna waḍii‘^{an} (Informant)
 NEG it is possible to us that we expect of ART-lion that he is humble
 'We cannot expect of a **lion** to sit still.'
- (228) kaana s-suḡuun^u qabl^u ‘aabaar^{an} fa-‘awwal^u man banaa **s-siġn**^a ‘aliyy^{un}
 it was ART-prisons formerly cisterns and-the first who built ART-prison Ali
 'Formerly, prisons used to be cisterns; the first to build a **real prison** was Ali.'
 (Reckendorf 1921:181)
- (229) kunta ‘anta **r-raġula** (Reckendorf 1921:181)
 you were you ART-man
 'If you were a **real man**...'

We will now turn to the attestations of generic *dahab/dahab* in our corpus. We found generic instances of *dahab/dahab* in a variety of syntactic positions, including subject, direct object, prepositional object, adnominal genitive, PP other than prepositional object, and predicate noun. There is good evidence that *dahab/dahab* is a DISCOURSE REFERENT in all these cases, since anaphoric resumption by means of pronominals (personal pronouns, possessive suffixes, pronominal prefixes on verbs) is common in multiclausal constructions and in longer generic texts.

Subject NP:

In the following three sentences, *dahab* appears as a generic subject (cf. (232) is said by Donald while knocking a gangster on the head with a large lump of gold):

(230) Informants, Standard Arabic

ad-dahab^u (huwa) ma‘din^{un} yaaliy^{un}
 ART-gold:NOM he metal:NOM:IND expensive:NOM:IND
 'Gold is an expensive metal.'

(231) MM-AR, Egyptian Arabic

‘andak ha’’, yaa ‘amm "dahab".. **id-dahab** biyxalli n-naas magnuniin!
 at you right VOC uncle Scrooge ART-gold it makes ART-people crazy
 'You are right, Uncle Scrooge, **gold** makes people mad!'

(232) MM-AR, Egyptian Arabic

ana kunt 'aarif inn **id-dahab** aḥyaanan luh fayda!

I was knowing that ART-gold sometimes to it use
'I knew that **gold** could be useful sometimes!'

Object NP:

There are quite a number of examples of generic *dahab* occurring as (direct or prepositional) objects of "attitude verbs" such as 'love', 'like', 'desire', 'run after', 'be interested in' and their negative counterparts 'hate', 'detest', etc.:

(233) MM-AR, Egyptian Arabic

zayy maa 'ult lukum, il-'aḥbiyaa' humma illi biyḥibbu **d-dahab**,

like that I said to you ART-stupid:PL they REL they love ART-gold

wi ana 'umri maa ḥaṣṭarak fil-baḥs 'annu..

and I my life NEG I will participate in:ART-search of it

'As I told you, it is stupid people that love **gold**, and never in all my life will I participate in **its** prospection.'

(234) MM-AR, Egyptian Arabic + Standard Arabic⁷²

wa-'ana 'ansahukum bi'anna l-baḥṭ 'an **ad-dahab** miš kull šay' fil-ḥayaat..

and-I I assure you of-that the search from ART-gold NEG every thing-in-ART-life

wa-'ana lan aḡri waraa' **d-dahab** ba'd kida 'abadan.. wi l-'aḥbiyaa'

and-I NEG I run after ART-gold after such never and-ART-stupid:PL

faḡaṭ humma illi yigru wara **d-dahab**!

only they REL they run after ART-gold

'And I assure you that the search for gold is not everything in life. And I have never run after **gold** since then. And it is only stupid people that run after **gold**.'

(235) MM-AR, Egyptian Arabic

w ana kamaan bakrah **id-dahab**

and I also I hate ART-gold

'I hate **gold**, too'

Outside the area of attitude verbs, where the indeterminate form would be ungrammatical according to the informants, there are no clear instances of generic objects (if one exempts the *Search* verbs, whose objects clearly pattern with generics). We have one erratic case of an object construction with an unequivocal QUALITY value where the form with the definite article, obviously in a "generic" reading, alternates in the same text with the indeterminate form, which might then be interpreted in the sense of an unspecified quantity of the material. The verb is *baad/yibiid* ('lay an egg/eggs'). The context refers to golden geese that lay golden eggs. The object 'gold' switches back and forth between a determinate (cf. (236a)) and an indeterminate (cf. (236b)) construction at least four or five times in the story:

⁷² This is an excerpt from an "official speech" delivered by Scrooge McDuck; it imitates the mixture of written language and vernacular characteristic of this text genre.

(236) MM-AR, Egyptian Arabic

- a. ḥa'aggar baxra sarii'a giddan yaa awlaad niruuḥ biiha giziira
 I will rent boat fast very VOC children that we go with it island
 "haali baali" w ništiri kull il-wizz illi biybiid **id-dahab**
 Hali Bali and that we buy all ART-geese REL they lay ART-gold
 'I will rent a fast boat, kids, to go to the island of Hali Bali to buy all the geese that
 lay **gold**.'
- b. wi 'andik wizz biybiid **dahab**?
 and at you geese they lay gold
 'And you have geese that lay **gold**?'

On closer inspection, it turns out that all occurrences of the expression in question ('lay (the) gold') happen to be embedded in relative clauses just like those exemplified in (236) above, with a completely regular complementary distribution: determinate form *id-dahab* occurring in a relative clause dependent on a determinate head (as in (236a)) vs. indeterminate form *dahab* occurring in a relative clause dependent on an indeterminate head (as in (236b)). Consequently, the hypothesis that the QUALITY object of an embedded relative clause "inherits" its formal determination from the higher head could conceivably be entertained. In view of the paucity of data this remains speculative at the moment. But supposing it proves generalizable, we would have to reckon with cases of automatic formal alternation under particular, as yet unidentified, circumstances, complicating the analysis of form-meaning correlations considerably. In the case under discussion it would mean that the formal difference between *id-dahab* and *dahab* does not mark any semantic difference (e.g. that between "generic" and "unspecific").

Adnominal Genitive NP:

One of the areas where automatic formal alternation is a well-studied phenomenon is the genitive construction. Since Arabic cannot express differences in values of definiteness between the head and the modifier of a genitive construction (e.g. definite head and indefinite modifier) and the presence or absence of the article on the modifier always pertains to the entire phrase (cf. 4.1.2), the formal appearance of the modifier is not indicative of its status with respect to definiteness (and, hence, genericity). Consider the examples in (237). In (237a, b), the phrase *riihit id-dahab* is generic in its entirety; the whole phrase is {S-T- ABSTRACT, QUALITY}. This is different with *riihit dahab* in (237c), where the head is S-T CONCRETE, while the modifier remains {S-T- ABSTRACT, QUALITY}. Yet, the change in the status of the head is not indicated on the head itself, but is marked by the absence of the article on the modifier.

(237) MM-AR, Egyptian Arabic

- a. ana ašimm riihit **id-dahab** min aaxir id-dunya!
 I I smell scent ART-gold of end ART-world
 'I can smell the scent of gold from the end of the world!'
- b. baṭuuṭ, iṣ-ṣaxra di miš šakl iṣ-ṣaxra illi inta šiltaha, wi kamaan
 Donald ART-rock this NEG shape ART-rock REL you you brought it and also
 riihitha miš riihit **id-dahab**!
 its scent NEG scent ART-gold

'Donald, this rock is not the same shape as the rock you had brought before, and its scent is not the scent of gold either!'

- c. ana šaamim riiḥit **dahab** 'ariib min hina
 I smelling scent gold near of here
 'I smell a scent of gold not far from here.'

Nevertheless, there are a number of genitive constructions which are always determinate and therefore strongly point to an obligatory generic interpretation of the entire phrase. These include the two semantic areas of "M: MATERIAL, H: ABSTRACT property" and "M: MATERIAL = ARGUMENT₁, H: STATE (Existence)", discussed in 4.2. Recall that all of the phrases attested in the first group and almost all of the phrases of the second group occur only in determinate form: *qiima^{tu} d-dahabⁱ* ('the gold value'), *taman^u d-dahabⁱ* ('the price of gold'), *ḡuuda^{tu} d-dahabⁱ* ('the quality of gold'), *lawn^u d-dahabⁱ* ('the color of gold'), *mašdar^u d-dahabⁱ* ('the source of gold'), *wuḡuud^u d-dahabⁱ* ('the presence of gold'), *rašiid^u d-dahabⁱ* ('gold stock'), *qaa 'ida^{tu} d-dahabⁱ* ('gold currency'), etc.

Adnominal or Peripheral PP:

We have already dealt with one type of PP which occurs in attributive and predicative constructions, involves the preposition *min* ('of'), and has the general semantics of "MATERIAL = CONSTITUTIVE property (SUBSTANCE)" (cf. 4.2.4, 4.4.1). The results of our investigation indicated that, even though normative grammar allows the indeterminate form after *min* in this context, both corpus evidence and elicited utterances spontaneously offered by informants attest an almost exclusive use of the determinate form. Of course, this remains open to further investigation since it cannot be excluded that "inheritance" of definiteness features as in (236) may come into play here as well. For example, it is striking that dictionaries usually give the indeterminate form *min dahabⁱⁿ* rather than the determinate *min ad-dahabⁱ* when translating 'an X of gold, a golden X' into Standard Arabic (and similarly with other materials), suggesting that an indeterminate head goes with an indeterminate PP. Be this as it may, we can safely conclude that there is a strong preference for the determinate form in PPs of this kind, and this is doubtless an extension of the generic use of the definite article in Arabic.

Another preposition that we found in the corpus to occur exclusively with the determinate form when combined with nouns denoting materials is the preposition *li-* ('for'):

- (238) MM-AR, Egyptian Arabic
 w-iddiini kamaan faḥḥaar **li-d-dahab!**
 and-give me also digging tool for-ART-gold
 'And give me a digging tool **for gold** as well!'

In all constructions expressing "difference/distinction/similarity between kind X and kind Y" or "confusion of kind X and kind Y" we find the determinate form in generic function:

- (239) MM-AR, Egyptian Arabic
 tašawwaru, miš 'arfa l-far' been **il-beeḍa id-dahab** wi **ṭ-ṭuuba!**
 imagine:PL NEG knowing:FEM ART-difference between ART-egg ART-gold and ART-brick
 'Imagine, she doesn't know the difference between a **golden egg** and a **brick!**'

(240) Informant, Standard Arabic

'astaṭii'u tamiiz^a **d-dahab**ⁱ (**min al-fidda**^{ti}) 'idaa ra'aytuhu
 I can distinction ART-gold of ART-silver if I see it
 'I can distinguish **gold (from silver)** if I see it.'

A further domain of the determinate NP in generic function in the scope of a preposition is constituted by the expressions 'full of'⁷³ and 'empty of':

(241) MM-AR/Informants, Standard Arabic

mamluu'^{un} / malii'^{un} **bi-d-dahab**ⁱ / *mamluu'^{un} **bi-dahab**ⁱⁿ
 filled full with-ART-gold filled with-gold
 'full of gold/filled with gold'

(242) MM-AR, Egyptian Arabic

aah.. 'irift leeh ba'uuli il-mangam bi-mablay basiiṭ, ṭab'an li'annu
 oh I have known why they sold me ART-mine with-amount small of course because it
xaali minid-dahab, kullu ṣuxuur bass!
 empty of ART-gold all of it rocks only
 'Oh, now I know why they sold me the gold mine for a cheap price, of course it is
 because it is **empty of gold**, everything is rocks only!'

Predicate:

Finally, a generic NP may occur in the predicate position of a "nominal sentence" with a pronoun, a demonstrative, or a question word in subject position. We have only two examples with 'gold' in our corpus, but examples from Classical Arabic involving other nouns can be found in Reckendorf (1921:181d).

(243) MM-AR, Standard Arabic

maadaa huwa **d-dahab**^{un}?
 what he ART-gold
 'What is gold?'

(244) MM-AR, Egyptian Arabic

da id-dahab, yaa awlaad
 this ART-gold VOC children
 'That's gold for you, boys!'

The examples differ in the type of genericness. While *ad-dahab^u* in (243) is clearly kind-referring (and could arguably be interpreted as an inverted subject⁷⁴), *id-dahab* in (244) is

⁷³ In the classical language it is common to use the indeterminate accusative *dahab^{an}* in the context of 'fill, full' (cf. *mil'u l-'arḍi dahab^{an}* ('the world full of gold'), which occurs repeatedly in the Koran). This usage continues into the Modern Standard language, but we do not have any examples of it in our corpus.

⁷⁴ Classical and Modern Standard Arabic have "WH-movement". Interestingly, in Egyptian Arabic, where question words remain in their normal syntactic position, one would say *id-dahab eeh?*, (lit. 'The gold what?')

definitely predicative and bears the connotation of 'that's typical of gold' (the preceding context, which (244) summarizes, is a description of all that gold may achieve).

Anaphoric resumption:

Generic sentences often combine to longer generic texts in which a discourse topic is kept constant over several utterances. Our corpus contains a considerable number of texts where 'gold' is talked about as a kind of material as such. In (234) we had an example in which the generic mention of 'gold' was repeated in the form of a full NP in every sentence (three times in succession). This is not normally done and may perhaps be attributed here to the rhetoric character of the text passage from which the example is taken. More often, the generic expression is taken up as an anaphoric pronoun in subsequent mentions, after being introduced as a full NP in the first sentence. In other words, it behaves exactly like an S-T CONCRETE DISCOURSE REFERENT. It can be pronominalized in all positions in which it may occur as a generic DISCOURSE REFERENT, and it may be pronominalized following antecedents in all positions. (233) above is an example; the generic antecedent is found in the object position of an attitude verb, its pronominalization appearing as a pronominal suffix on a preposition. Another example comes from a gold text provided by one of our informants; here the possessive suffix in the second sentence resumes the generic subject of the first sentence:

- (245) kaana l-'aztikiyuun^a ya'taqiḍuun^a 'anna **d-dahab^a** huwa 'araq^u š-šamsⁱ.
 it was ART-Aztecs they maintain that ART-gold he sweat ART-sun
 Amma l-miṣriyyuuna l-quḍamaa' fa-kaanuu yu'minuuna 'anna maṣḍaruhu
 as for ART-Egyptians ART-ancient and-they were they believe that his source
 huwa 'ilaah^u š-šamsⁱ "raa"
 he god ART-sun Ra
 'The Aztecs maintained that **gold** is the sweat of the sun. And the Ancient Egyptians believed that **its** source was the sun-god Ra.'

Not all generic mentions are equally good points of departure for generic topic chains, however. For example, *min* phrases in the "MATERIAL = CONSTITUTIVE property (SUBSTANCE)" reading may be pronominalized when repeated, but constitute bad starting points for further generic statements about the material. In the following example (which was made up for testing purposes), informants accepted the continuation in (b), but were reluctant to accept the continuation in (c):

- (246) a. haadihi s-saa'a^{tu} maṣnuu'a^{tun} **min ad-dahabⁱ**...
 this ART-watch manufactured of ART-gold
 'This watch is made **of gold**...'
 b. wa-haadaa l-'iswaaaru maṣnuu'un **minhu** 'ayḍan
 and-this ART-bracelet manufactured of it also
 'and this bracelet is made **of it** as well.'
 c. ?wa-'uḥibbuhu
 and-I love it
 'and I love **it** (i.e. gold).'

Pronominalization sounds odd here; the full NP should be repeated to open a new topic chain.

Repetition of the NP in the indeterminate form is always indicated if the speaker shifts from a generic mention to an unspecified quantity reading, as in (206), which is repeated here as (247) for convenience:

(247) MM-AR, Egyptian Arabic

yaah! hiyya di bilaad **id-dahab** wa-law inni miš šaayif **dahab**..
 oh boy she this:FEM land ART-gold and-if that I NEG seeing gold
 'Oh boy! Now this is the land of **gold**... though I haven't seen **any gold** so far...'

4.4.7 Summary and Discussion

The picture that emerges from the foregoing analysis of our corpus material reveals some clear typological tendencies of Arabic. These may be summarized as follows:

Beyond the classic generic cases such as kind-referring subjects of characterizing predicates, objects of attitude verbs, and corresponding genitives and PPS, Arabic has grossly overgeneralized the definite article in its generic reading. It is extended to the area of hypothetical generic contexts and prototypical/normative representatives of a kind. It is further extended to instrumental phrases, quantifier phrases, attributes of "CONSTITUTIVE" and "ABSTRACT property" and STATE, and constructions of comparison.

The following is a list of the major constellations examined in this section, including some of the constellations treated in the previous sections and already singled out there as possible contenders for a generic interpretation.

Table 6

classic generic	det
hypothetical generic	det
prototypical/normative representative of kind	det
instrumental phrase (e.g. 'paved with gold')	det
full/empty of X	det
difference, etc., between X and Y	det
MODIFIER of HEAD: TELIC property (<i>for X</i>)	det
comparison (like X, than X)	det
MODIFIER as CONSTITUTIVE property of HEAD (<i>of X</i>)	(<i>min +</i>) det
MODIFIER in genitive construction: generally	automatic alternation between det and ind depending on definiteness of HEAD
special cases: HEAD: ABSTRACT property	det
HEAD: STATE (Existence)	det
object of Search verbs	det
quantifying expressions: with UNIT nouns: with fuzzy quantifier: with quantifier as question word (how much X)	quantifier + (<i>min +</i>) det quantifier + (<i>min +</i>) det quantifier + ind / quantifier + (<i>min +</i>) det
object of Transfer verbs	quantifier + (<i>min +</i>) det (episodic) occasionally ind (if non-episodic or highlighting quality reading)
object of Need/Want verbs	ind / quantifier + (<i>min +</i>) det
object of Find verbs	ind
object of Perception verbs	ind
existence (affirmative, negative, possessive, comitative (with X), privative (without X))	ind
secondary predicate (turn into X, etc.)	ind
primary predicate of ascriptive clause	ind

The enormous range covered by the determinate form is immediately evident from this list. Indeed, it encompasses almost anything that is {S-T ABSTRACT, QUALITY}, including objects of verbs typically associated with S-T ABSTRACT such as *Search* verbs. The only exceptions that remain in the domain of the indeterminate form are predicates of ascriptive sentences, secondary predicates, and existence.

5 Conclusion

In the two preceding chapters we presented an analysis of the grammatical instances of the lexical family of *gold* in English and their equivalents in the corresponding lexical families in two varieties of Arabic (Standard Arabic *dahab* and Egyptian Arabic *dahab*). Against the background of six dimensions of analysis relevant in the nominal domain (described in section 2.3), we organized our discussion into three rubrics according to three different aspects or leading ideas. First, we dealt with those grammatical instances of the lexical families in question which share the values of ATTRIBUTE on the dimension of Propositional Function and QUALITY on the dimension of Individuality (sections 3.1 and 4.2 respectively). Second, we examined instances of the respective families bearing the OBJECT value on the dimension of Individuality, both with and without the value of SHAPE on the dimension of Form (sections 3.2 and 4.3 respectively). Third, we followed the path of *gold*, *dahab*, and *dahab* in S-T ABSTRACT contexts from predicative use via central and peripheral arguments of verbs to classic generic DISCOURSE REFERENTS (sections 3.3 and 4.4 respectively).

We will now briefly summarize and discuss the typological implications resulting from the foregoing investigations.

5.1 Attributes in English, Standard Arabic, and Egyptian Arabic

In sections 3.1 and 4.2 we analyzed instances of the respective word families of English *gold*, Standard Arabic *dahab*, and Egyptian Arabic *dahab* in all the main contexts where their occurrences in positions as modifiers of NPS may be assumed to bear the values of {ATTRIBUTE, QUALITY} (instances bearing the values of {ATTRIBUTE, OBJECT} will be subsumed under the rubric dealt with in the following section).

We identified eight different types of semantic relation between modifier (M) and head (H), repeated here for convenience:

- (1) M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL (*gold watch*)
- (2) M: COLOR = FORMAL property, H: ARTIFACT, MATERIAL, BODY PART, PLANT, etc. (*gold eyes*)
- (3) M: WORTH = ABSTRACT property, H: HUMAN, BODY PART, ABSTRACT, etc. (*heart of gold*)
- (4) M: MATERIAL = ARGUMENT₂, H: EVENT/EVENT derivatives/STATE (*gold rush*)
- (5) M: MATERIAL = ARGUMENT₁, H: STATE (Existence) (*gold mine*)
- (6) M: MATERIAL, H: TELIC property (*gold standard*)
- (7) M: MATERIAL/COLOR, H: ABSTRACT property (Dimensionality, etc.) (*price of gold*)
- (8) M: MATERIAL, H: FORMAL property (Mode of Appearance = SHAPE, SUBSTANCE) (*gold dust*)

Each of the three languages employs a number of different constructions, which are unevenly distributed across the types of semantic relation. These constructions are language-specific

and not immediately comparable, not even between the two varieties of Arabic. Even though handbooks of all three languages operate with the standard set of parts-of-speech distinctions, conventional bilingual dictionaries and grammars usually suggesting a direct equivalence of "nouns", "adjectives", "prepositional phrases", etc., it turns out that these constructions are only superficially similar and the correspondences between them much more complicated than it appears at first sight.

For English, we identified four main constructions: (a) $X_{MOD} N_{HEAD}$ (juxtaposition of modifier and head with stress on the head); (b) $N_{HEAD} X_{MOD}$ (juxtaposition of modifier and head with stress on the modifier); (c) $X_{en_{MOD}} N_{HEAD}$ (overtly marked adjective as modifier), and (d) $N_{HEAD} PREP X_{MOD}$ (head and modifier linked with a preposition).

The two varieties of Arabic share three constructions: (a) $N_{HEAD} X_{ADJ-MOD}$ (overtly marked "nisba" adjective as modifier), (b) $N_{HEAD} X_{GEN-MOD}$ (morphosyntactically marked genitive construction), and (c) $N_{HEAD} PREP X_{MOD}$ (head and modifier linked with a preposition). There is an important difference between the two varieties in that Standard Arabic marks syntactic relations by case endings while Egyptian Arabic does not, so that the genitive construction (b) is both head- and dependent-marking in Standard Arabic while it is only head-marking in Egyptian Arabic. Nevertheless, from the point of view of the overall systems, the two constructions are comparable.

Besides these three constructions, we found that there is an additional construction in Egyptian Arabic not hitherto described in the literature and which we called the "appositive construction". This will be symbolized by $N_{HEAD} X_{MOD}$. This construction is not formally comparable to anything found in Standard Arabic.

There are also some minor constructions with limited distribution such as a participle of a causative verb with ornative meaning as modifier ($N_{HEAD} X_{PART-MOD}$), a construction with the modifier introduced by a particle meaning 'like' ($N_{HEAD} zayy$ ('like') ART X_{MOD}), a construction involving a relative clause, and others we will briefly touch upon below.

Table 7 below presents a summarizing overview of the correlation between the grammatical constructions and the types of semantic relation between head and modifier in the three languages. Numbers indicate ranking of constructions: the predominant or only construction used to express a certain relation is marked with "1", those marked with integers greater than "1" are either less frequent or limited to specific contexts (indicated in parentheses). Constructions linked by "~" are of equal rank.

Table 7 Types of semantic relations between modifier and head

MODIFIER	HEAD	Standard Arabic	Egyptian Arabic	English
MATERIAL = CONSTITUTIVE property (SUBSTANCE)	ARTIFACT, MATERIAL	1. $N_{HEAD} X_{ADJ-MOD} \sim N_{HEAD} X_{GEN-MOD}$ 2. $N_{HEAD} PREP X_{MOD}$ (PREP = <i>min</i> ('of'))	1. $N_{HEAD} X_{MOD}$ (appositive) 2. $N_{HEAD} X_{GEN-MOD}$ (rare)	1. $X_{MOD} 'N_{HEAD} \sim N_{HEAD} PREP X_{MOD}$ (variation systematically dependent on a number of factors) 2. $xen_{MOD} N_{HEAD}$ (stylistically marked)
COLOR = FORMAL property	ARTIFACT, MATERIAL, BODY PART, PLANT, etc.	1. $N_{HEAD} X_{ADJ-MOD}$ (optionally + <i>al-</i> <i>lawni</i> ('of the color')); 2. $N_{HEAD} X_{PART-MOD}$	1. $N_{HEAD} X_{ADJ-MOD}$ 2. $N_{HEAD} +$ relative clause ('whose color is gold') 3. $N_{HEAD} X_{PART-MOD}$	1. $xen_{MOD} N_{HEAD}$ 2. $X_{MOD} 'N_{HEAD}$
WORTH = ABSTRACT property (metaphorical)	HUMAN, BODY PART, ABSTRACT, etc.	1. $N_{HEAD} X_{ADJ-MOD}$	1. $N_{HEAD} X_{ADJ-MOD}$ 2. $N_{HEAD} PREP X_{MOD}$ (PREP = <i>min</i> ('of')) 3. $N_{HEAD} zayy$ ('like') ART X_{MOD}	1. $N_{HEAD} PREP X_{MOD}$ 2. $xen_{MOD} N_{HEAD}$ (less frequent but productive)
MATERIAL = ARGUMENT ₂	EVENT/EVENT derivates STATE	1. argument marking identical with that of corresponding finite verb forms 2. $N_{HEAD} X_{GEN-MOD}$ 3. $N_{HEAD} X_{ADJ-MOD}$ (exceptional cases)	1. argument marking identical with that of corresponding finite verb forms 2. $N_{HEAD} X_{GEN-MOD}$	1. $'X_{MOD} N_{HEAD} \sim$ $N_{HEAD} PREP X_{MOD}$
MATERIAL = ARGUMENT ₁	STATE (Existence)	1. $N_{HEAD} X_{GEN-MOD}$ (predominantly determinate)	1. $N_{HEAD} X_{GEN-MOD}$ (predominantly determinate)	1. $'X_{MOD} N_{HEAD} \sim$ $N_{HEAD} PREP X_{MOD}$
MATERIAL	TELIC property	1. $N_{HEAD} X_{GEN-MOD}$ 2. $N_{HEAD} PREP X_{MOD}$ (PREP = <i>li-</i> (('for')) (predominantly determinate)	1. $N_{HEAD} X_{GEN-MOD}$ 2. $N_{HEAD} PREP X_{MOD}$ (PREP = <i>li-</i> (('for')) (predominantly determinate)	1. $'X_{MOD} N_{HEAD}$ 2. $N_{HEAD} PREP X_{MOD}$
MATERIAL/COLOR	ABSTRACT property (Dimensionality, etc.)	1. $N_{HEAD} X_{GEN-MOD}$ (always determinate)	1. $N_{HEAD} X_{GEN-MOD}$ (always determinate)	1. $N_{HEAD} PREP X_{MOD}$ 2. $'X_{MOD} N_{HEAD}$
MATERIAL	FORMAL property (Mode of Appearance = SHAPE, SUBSTANCE)	1. $N_{HEAD} X_{GEN-MOD}$ 2. $N_{HEAD} X_{ADJ-MOD}$ (rare)	1. $N_{HEAD} X_{GEN-MOD}$	1. $X_{MOD} 'N_{HEAD} \sim 'X_{MOD} N_{HEAD} \sim$ $N_{HEAD} PREP X_{MOD}$

Our findings regarding similarities and dissimilarities between the languages examined may be summarized as follows.

- (a) A significant result of our investigation is the observation that there are certain semantic relations between modifier and head that favor an interpretation of the modifier as a generic DISCOURSE REFERENT. This is only covertly evident in English, where it is suggested by the preponderance, in these contexts, of the N_{HEAD} PREP X_{MOD} construction, which is typically preferred when either X_{MOD} or the entire NP is a DISCOURSE REFERENT. The generic interpretation comes out much more clearly in both varieties of Arabic due to the fact that the determinate form in its generic reading appears in the very same contexts. The semantic head-modifier relation where this is most spectacular is (7) "M: MATERIAL/COLOR, H: ABSTRACT property (Dimensionality, etc.)": in English, the N_{HEAD} PREP X_{MOD} construction is heavily favored here, and in both varieties of Arabic, all corpus tokens appear in the determinate form. This strongly points to the tendency to interpret the modifier as a generic DISCOURSE REFERENT, whose abstract properties (size, weight, hardness, brightness, etc.) are stated by means of the head. Another area is (5) "M: MATERIAL = ARGUMENT₁, H: STATE (Existence)" with a similar, though less exclusive, distribution. Finally, we find the tendency toward a generic interpretation of the modifier in head-modifier relation (6) "M: MATERIAL, H: TELIC property", where Arabic favors the determinate form at least whenever the modifier occurs with the TELIC preposition *li-* ('for').
- (b) There are striking differences among the three languages with respect to the role overtly marked "bona fide" adjectives play in expressing modifier relations. Standard Arabic proves to be a strongly adjective-dominated language. The nisba adjective is the normal way of expressing the "MATERIAL = CONSTITUTIVE property (SUBSTANCE)" relation (1); it also figures prominently in the "COLOR" and "WORTH" relations (2) and (3), and it is even occasionally found in the relations of (4) "M: MATERIAL = ARGUMENT₂, H: EVENT/EVENT derivatives/STATE" and (8) "M: MATERIAL, H: FORMAL property (Mode of Appearance = SHAPE, SUBSTANCE)". This leaves us with (5), (6), and (7) for contexts where the nisba adjective does not occur, precisely those relations in which we found the modifier to be subject to an interpretation as a generic DISCOURSE REFERENT.

In English, adjectival forms (*golden* and *gilt*) are clearly on the retreat, being outcompeted by the bare form coupled with stress on the head (X_{MOD} 'N_{HEAD}), except in metaphorical or stylistically marked (e.g. historical, mythical) usage. Hence, the adjective becomes an indicator of special stylistic effects in the interpretation "MATERIAL as CONSTITUTIVE property", dominates in the interpretation "COLOR as FORMAL property", and seems to become productive in other metaphorical areas. The adjective does not seem to occur in any other of the head-modifier relations.

A similar picture emerges for Egyptian Arabic. Here, the adjective is yet more restricted; it only occurs in the COLOR and WORTH senses and does not even allow stylistically marked uses as in English.

- (c) In English, there are only two types of semantic relation between head and modifier in which the stress pattern $X_{MOD} 'N_{HEAD}$ occurs and does not at the same time alternate with the stress pattern $'X_{MOD} N_{HEAD}$. These are precisely the relations in which Standard Arabic employs the nisba adjective as the dominant means of expression, namely, the relations in which *gold* in the modifier position represents a CONSTITUTIVE or FORMAL property of the head, with the latter lexically denoting ARTIFACTS, MATERIALS, etc. (i.e. relations (1) and (2)); we will disregard head-modifier relation (3) "M: WORTH = ABSTRACT property, H: HUMAN, BODY PART, ABSTRACT, etc.", whose representatives are most probably recent calques from Western standard expressions ('Golden Age', etc.)). From a typological point of view, then, the English functional equivalent of the Standard Arabic nisba adjective is not the adjective *golden*, as dictionaries tend to suggest, but the stress pattern $X_{MOD} 'N_{HEAD}$ (regardless of the part-of-speech status of X_{MOD} , but with a strong tendency toward X_{MOD} not bearing overt adjectival marking). As for Egyptian Arabic, we observe a split here: even though there seems to be a general hostility to adjectives in this area, it relegates relation (2) to the adjective, developing a new construction $N_{HEAD} X_{MOD}$ (the appositive construction) to be exclusively used for semantic relation (1) "M: MATERIAL = CONSTITUTIVE property (SUBSTANCE), H: ARTIFACT, MATERIAL". The Egyptian Arabic appositive construction bears a striking resemblance to the English stress pattern $X_{MOD} 'N_{HEAD}$, the more so since in both languages, the respective constructions have a predicative counterpart. It is tempting to relate this to the morphological type of the two languages: in contrast to Standard Arabic both English and Egyptian Arabic show a more or less isolating tendency in the NP structure, which means that head-modifier relations do not have to be morphologically marked but can be expressed by simple juxtaposition.
- (d) None of the Arabic varieties has a direct equivalent of the English modifier-stressed pattern $'X_{MOD} N_{HEAD}$. The construction which comes closest to it in distribution is the genitive, but in Arabic the genitive is also allowed in the interpretation "MATERIAL as CONSTITUTIVE property", where the English pattern $'X_{MOD} N_{HEAD}$ is ruled out. Moreover, the most prominent function of the English pattern $'X_{MOD} N_{HEAD}$, the ARGUMENT₂ relation, is not predominantly expressed by the genitive in Arabic. This reveals another fundamental difference between English on the one hand, and both varieties of Arabic on the other hand: English has generalized $'X_{MOD} N_{HEAD}$ as a typical ARGUMENT relation pattern, while Arabic has a strong tendency to express ARGUMENT relations in NPS in the same way as they are expressed with finite verb forms.

In both English and Arabic, the patterns described here are roughly generalizable across the field of METALS and other materials, as random samples revealed. It has turned out, however, that it is necessary to be aware of idiosyncratic as well as systematic differences between the single lexical families. For example, in English only few other families of the relevant field contain an adjectival member (*silvery*, *wooden*), while the majority does not. The adjectival member may cover a range of senses not touched upon in our investigation of "gold" (cf. *grassy*: 'covered with grass' (*grassy areas*), 'like grass' (*grassy stuff*), *stony*: 'where stones abound', etc.). There are also differences in FORMAL properties (e.g. color) and particularly ABSTRACT properties leading to quite different metaphorical extensions (hardness of stone, wood, etc., coldness of stone, sweetness of honey, and so on and so forth). All this may

contribute to differences in the relative weight of the constructions the grammatical instances of the lexical items are involved in.

5.2 *Gold, etc. as an OBJECT*

Grammatical instances of the respective word families of English *gold*, Standard Arabic *dahab*, and Egyptian Arabic *dahab* as OBJECTS with and without SHAPE were examined in sections 3.2 and 4.3 respectively.

In all three languages, the distinction between OBJECT and QUALITY values is chiefly a matter of the grammatical systems of quantification and determination. As for quantification, all three languages can make a precise specification of an amount, e.g. by means of a numeral plus a standardized unit of measure, or can vaguely indicate an amount by means of a fuzzy quantifier. As for determination, all three languages concur in their capability, without any restriction, of using the definite article - in its definite-specific (anaphoric) reading - in combination with *gold* or its Arabic equivalents. In all of the grammatical contexts where its use (or that of the demonstrative) is grammaticalized in these languages, it also appears with *gold*, *dahab*, or *dahab*.

Against this background, a number of fundamental typological differences have been observed. These differences rest, in the first place, on basic dissimilarities in the lexicogrammatical subcategorization of nouns with respect to their behavior in quantification and determination. Both varieties of Arabic examined lack the grammatical MASS/COUNT paradigm of English. Instead, four subcategories of noun may be distinguished according to their quantificational properties (section 4.1). It was found that the subcategory of "nouns of kind", to which *dahab* belongs in Classical and Standard Arabic, most closely resembles the English MASS nouns, though this resemblance is reflected only in the incapability of "direct enumeration" (by immediate combination of a numeral with a word form of the respective noun), since members of this subcategory do not possess the plural or singulative forms grammatically required for the combination with numerals. It is not reflected in the morphological forms of quantifiers and determiners. There are no specialized "nouns of kind" quantifiers as there are specialized MASS quantifiers in English, and the system of determiners functions alike for all noun subcategories. In contrast to Classical and Standard Arabic, Egyptian Arabic has allocated *dahab* to a different subcategory, that of "nouns of collective kind", which is capable of forming singulatives and therefore allows direct enumeration by means of the combination of numerals with these singulative forms.

These dissimilarities in basic subcategorization, in conjunction with differences in the lexical senses the respective nouns have in the different languages (in particular, the UNIT senses), have a significant impact on their behavior in quantificational contexts. Table 8 below lists some potential UNIT senses of the morphologically simplex member of the *gold/dahab/dahab* families.

Table 8 Potential UNIT senses of the morphologically simplex member of the *gold/dahab/dahab* families

sense	Standard Arabic	Egyptian Arabic	English
gold jewel	-	-	-
gold medal	-	-	+
gold color (sort)	-	-	+
piece of (raw) gold	-	(singulative)	-

For Standard Arabic, direct enumeration is clearly ruled out altogether. This is intimately connected to the fact that the simple noun *dahab* has no morphological plural form, which, in turn, can be interpreted to the effect that it is not "designed" for a UNIT reading. To express a precise specification of the amount of entities perceptible with a SHAPE, one must either use a UNIT noun indicating the respective mode of appearance of the gold or a UNIT noun indicating the CONTAINER in which the gold is stored. This is the normal method in Egyptian Arabic and English, as well. In addition, however, the former has a singulative of the meaning 'piece of (raw) gold', which can be immediately combined with numerals and form a plural, and the latter has a sense 'gold medal', in which *gold* appears in all grammatical COUNT environments: it admits the formation of a plural and is directly combined with ordinal and cardinal numerals and exclusively COUNT quantifiers. Moreover, English *gold* has a sense 'gold color', absent from its Arabic equivalents, which forms a plural in the sense of 'shades of gold color' (particularly in the context of autumn leaves and similar metaphorical environments), but does not allow enumeration. Finally, we observed "grinding effects" in English with the simple noun used in the sense of 'gold jewels' in spite of the fact that it allows no UNIT sense 'piece of gold jewelry'. Similar effects were found in Egyptian Arabic, though this may be due to the collective flavor singular forms of class 4 nouns ("nouns of collective kind") may always receive when being in opposition to a singulative. These results are summarized in Table 9 below.

Table 9 Differences between Arabic and English Relevant for the MASS/COUNT Distinction

	Standard Arabic	Egyptian Arabic	English
UNIT noun construction	yes	yes	yes
direct enumeration	no	yes with singulative no with simple noun	yes with 'medal' sense no elsewhere
simple noun allows plural form	no	no	yes with 'medal and 'color' sense; rarely with SORT sense no elsewhere
grinding effects	no	perhaps with 'gold jewels' sense ⁷⁵ no elsewhere	yes with 'gold jewels' sense no elsewhere

Despite the superficial formal similarities among constructions with UNIT nouns in the three languages, these constructions occupy different places in the overall systems. In the context of the English MASS/COUNT paradigm, UNIT nouns (including dummy nouns such as *object*) are indispensable for all grammatical instances where lexical units usually treated as MASS nouns receive bounded interpretations, not only in combination with numerals, but with all quantifiers exclusively restricted to COUNT contexts (i.e. also with *many* or with the interrogative quantifier *how many*). In other words, they establish the conditions required for quantification by members of the COUNT paradigm. This is not necessary for lexical units with senses inherently associated with the COUNT paradigm, such as *gold* in the sense of 'medal'. As already mentioned, the "nouns of kind" category of Standard Arabic bears a certain resemblance to English MASS nouns; hence, the total lack of direct enumerability and its replacement with UNIT noun constructions is, in a sense, functionally related to the corresponding phenomena in English, even though Standard Arabic has no MASS/COUNT paradigm involving spectacular differences between forms of determiners and quantifiers. Nevertheless, it has to be noted that English is much more versatile than probably any variety of Arabic in its ability to allow for MASS-related and COUNT-related uses of the same lexical form, which seems impossible in Arabic.

In contrast to English and Standard Arabic, the capability of indicating SHAPE has been built into the nominal paradigm in Egyptian Arabic (by means of the singulative), with the result that the UNIT noun construction carries much more "semantic weight" than it does in the other two languages: the singulative is used to indicate a "default SHAPE" interpretation, whereas the UNIT noun construction takes over the task of indicating more specific SHAPES. It is perhaps significant that this "default SHAPE" ('single piece of X with no explicitly specified form') interpretation is the only COUNT-related sense that is completely ruled out for the English simple noun. There is 'medal', a 'color sort', and perhaps a latent 'jewel' sense (showing up in the grinding effects), all of them specialized semantically-extended senses, but

⁷⁵ Unless this must be interpreted as the usual collective reading of singular forms of the simple noun when contrasting with singulatives; cf. discussion on p. 114.

precisely the one general UNIT sense which is molded into an extra morphological form in Egyptian Arabic is not included among the lexical ambiguity pattern of the English simple noun *gold*. This is not surprising since it is precisely this general UNIT sense which is the basic meaning of the Arabic singulative, whereas English has no systematic ambiguity corresponding to the simple noun-singular vs. singulative distinction.

Let us finally mention a striking difference between English and both varieties of Arabic in the area of quantification. In English, a specific type of the combination of quantification and determination is occasionally found in constructions where a fuzzy quantifier (e.g. a MASS quantifier such as *much*) is connected in "partitive-like" way with a definite NP (*much of the gold*), but this is restricted to cases where the NP is to be interpreted as referring to a specific, textually established quantity of gold. Otherwise, English combines fuzzy quantifiers with the bare form. In Arabic, however, the determinate NP is generally used with fuzzy quantifiers, irrespective of whether the NP in question has an OBJECT or a QUALITY value; one normally says 'much of the gold', 'some of the gold', 'a little bit of the gold', etc., involving the partitive preposition *min* + definite article, where English says *much gold*, *some gold*, etc. Moreover, this construction is not restricted to fuzzy quantification. It also shows up with CONTAINERS and conventional UNITS OF MEASUREMENT, whenever the respective NP indicating the material is linked to the UNIT noun by means of the partitive preposition *min* ('of'). Even though the determinate form is in free variation with the indeterminate one here (i.e. one may say, literally, 'three bags of gold' or 'three bags of the gold' with no significant change in meaning), we have found that there is a strong preference for the determinate form in the corpus.

In section 4.3 we have already suggested that this difference can be attributed to a general discrepancy between English and Arabic in the treatment of QUALITY-specified NPs. In Arabic, it is common to decompose quantifier constructions with "nouns of kind" into a quantifying part which constitutes the head and is therefore responsible for the OBJECT value of the entire phrase, and a modifier PP containing the material in a partitive construction with a QUALITY interpretation. There is a strong tendency in Arabic to interpret such QUALITY phrases as generic DISCOURSE REFERENTS. This leads us to the third aspect from which we have looked at our data, the behavior of NPS bearing the QUALITY value and their relation to genericity.

5.3 *Gold, etc. as a QUALITY*

Grammatical instances of *gold* and its Arabic equivalents bearing the value of QUALITY were investigated in 3.3 and 4.4 respectively. The most striking overt typological difference between English and both varieties of Arabic was found in the use of the definite article in QUALITY-specified NPs. While for English we can attest at best marginal occurrences of the definite article here, this area is strongly dominated by the determinate form in Arabic.

An overview of the different QUALITY-related constructions in which the Arabic determinate form is used exclusively or at least strongly prevails can be gained from Table 6 in section 4.4. The list includes quantifier constructions with QUALITY-specified parts mentioned in the previous section.

In particular, the determinate form in Arabic covers the following feature configurations:

- (1) {QUALITY, S-T ABSTRACT, TOPIC, DISCOURSE REFERENT}

In the first place, this covers the prototype of genericity, comprising classic generic expressions which refer to established kinds and occur as the subject of a sentence whose predicate makes a characterizing statement about them. It is safe to assume that the determinate form functions here as an indicator of the DISCOURSE REFERENT status of the generic NPS, as equivalent forms do in many other languages. This has been extended from established kinds, which are bona fide DISCOURSE REFERENTS, to comprise non-established kinds as well. It has also been extended to both established and non-established kinds in other argument positions such as the object of attitude verbs, where they form a secondary TOPIC. Moreover, it covers several further types of genericity which in other languages are preferably expressed by "indefinite generics", something which Arabic does not possess. In sum, the determinate form covers the broadest possible range of both central and peripheral cases of classic genericity.

- (2) {QUALITY, S-T ABSTRACT, ATTRIBUTE, DISCOURSE REFERENT}

Whenever a lexical form appears as a grammatical instance characterized by the configuration {QUALITY, S-T ABSTRACT, ATTRIBUTE}, Arabic seems to make a careful distinction between DISCOURSE REFERENT and NON-DISCOURSE REFERENT status, the former being marked by the determinate, the latter by the indeterminate form. All possible candidates for a kind interpretation, be it established or not, tend to be interpreted as DISCOURSE REFERENTS. This manifests itself in the following cases: (a) comparison (including similarity, dissimilarity, difference, etc.), where the standard of comparison is interpreted as a DISCOURSE REFERENT, (b) arguments of verbs affine to an S-T ABSTRACT context (such as 'search', 'hoard up', etc.); (c) nominal ("genitival") modifiers where the head is an ABSTRACT property, a TELIC property, or a STATE (cf. 5.1); (d) partitive constructions as modifiers of NPS (optional: variation between *min X* and *min al-X*); (e) ATTRIBUTES of quantifiers acting as heads (cf. 5.2; here, the determinate form has conquered the realm of fuzzy quantification and has begun to sneak into the realm of precise quantification by virtue of the fact that the determinate partitive PP (*min al-X*) figures prominently in this type of construction).

This leaves us with very few well-defined cases where the indeterminate form or other constructions are used in {QUALITY, S-T ABSTRACT, ATTRIBUTE} contexts, suggesting an interpretation as a NON-DISCOURSE REFERENT. First and foremost, adnominal ATTRIBUTES in the sense of "MATERIAL = CONSTITUTIVE property (SUBSTANCE)" and in some of the metaphorical extensions thereof show a strong tendency to remain the domain of constructions in which the MATERIAL is not interpretable as a DISCOURSE REFERENT (adjectival in Standard Arabic, appositive in Egyptian Arabic). Even if the partitive PP is used as an alternative in such cases, it tends to be indeterminate or possibly "inherits" its determination from the head as an agreement phenomenon. A second context is possibly negation under

certain circumstances. This is quite clear in the case of negative existence, where the determinate form is ruled out; other putative candidates remain open to further investigation.

(3) {QUALITY, S-T ABSTRACT, PREDICATE, DISCOURSE REFERENT}

While ascriptive predicates exclusively appear as indeterminate forms and are thereby clearly presented as NON-DISCOURSE REFERENTS, there are at least two contexts to which the above feature constellation applies. One is constituted by predicates of equative/identifying sentences, which are readily identifiable as DISCOURSE REFERENTS in many languages; it is not surprising therefore that such predicates are marked by the determinate form. The other is more peculiar. Recall that the partitive PP construction may occur as a possible alternative to the constructions usually found in the sense of "MATERIAL = CONSTITUTIVE property (SUBSTANCE)" in the predicate position. When this alternative is chosen, the partitive PP may appear either in the determinate or in the indeterminate form (*min X* or *min al-X*). Interestingly enough, we have found a strong preference for the determinate form in the corpus.

The determinate form in its generic, kind-referring reading does not normally occur in S-T CONCRETE contexts. The S-T CONCRETE environment seems to be strongly affine to OBJECT-specification.

In summary, we may not only state an extreme generalization of the determinate form within classic genericity and immediately affine areas, but also observe an extension of this form to cover virtually any possible constellation where NPS may receive a plausible interpretation as {QUALITY, DISCOURSE REFERENT}. This even goes as far as the tendency to extract a generic DISCOURSE REFERENT from basically OBJECT-oriented NPS with precise quantificational specifications or the tendency to mark the MATERIAL in CONSTITUTIVE property predicates as a generic DISCOURSE REFERENT.

Since the determinate form also marks the configuration {OBJECT, DISCOURSE REFERENT}, it seems quite plausible to define the determinate form as a general DISCOURSE REFERENT marker. This lends quite a distinct typological make-up to the Arabic language (in probably all its varieties), a type which is completely different from English in this respect.

This is almost self-evident in Table 10 below, which summarizes some of the main feature configurations of our multidimensional system and their canonical formal correspondences in terms of determination in the two languages (Standard and Egyptian Arabic are combined here under the single label "Arabic" as they do not exhibit any significant differences in this respect)⁷⁶.

Table 10 Association between Formal Marking and Semantic Feature Configurations

Feature Configuration	Arabic	English
QUALITY, S-T ABSTRACT, TOPIC, DISCOURSE REFERENT	determinate form	bare form definite article (marginal)
QUALITY, S-T ABSTRACT, ATTRIBUTE, DISCOURSE REFERENT		
(a) comparison	determinate form	bare form
(b) arguments of S-T ABSTRACT affine verbs	determinate form	bare form
(c) nominal modifiers of ABSTRACT property, TELIC property, or STATE heads	determinate form	bare form
(d) partitive constructions as modifiers of NPS	determinate form	bare form (rare)
(e) ATTRIBUTES of quantifiers acting as heads	determinate form	-
QUALITY, S-T ABSTRACT, ATTRIBUTE, NON-DISCOURSE REFERENT	indeterminate form	bare form
QUALITY, S-T ABSTRACT, PREDICATE, DISCOURSE REFERENT	determinate form	bare form
QUALITY, S-T ABSTRACT, PREDICATE, NON-DISCOURSE REFERENT	indeterminate form	bare form
OBJECT, S-T CONCRETE, TOPIC, DISCOURSE REFERENT	determinate form quantifier	definite article quantifier
OBJECT, S-T CONCRETE, ATTRIBUTE, DISCOURSE REFERENT	determinate form quantifier	definite article quantifier
OBJECT, S-T CONCRETE, ATTRIBUTE, NON-DISCOURSE REFERENT	indeterminate form quantifier	bare form (rare) quantifier

⁷⁶ Note that this only summarizes our findings concerning the area examined here. If English count nouns and their Arabic equivalents were taken into account, the picture would not change for Arabic, but significantly for English, in so far as the indefinite article should be listed as an alternative to the bare form in most instances, with more or less complementary distribution: bare form for MASS nouns and plurals of COUNT nouns, indefinite article for singulars of COUNT nouns.

As clearly emerges from the table, the English bare form and the Arabic determinate form are associated with different domains. This documents a fundamental typological difference between the two languages. In English, the bare form is strongly associated with the feature of QUALITY, while the definite article dominates only in the OBJECT domain. In Arabic, there is an equally strong association of the determinate form with the feature of DISCOURSE REFERENT, while the indeterminate form is confined to NON-DISCOURSE REFERENTS.

Appendix A: Three Texts Concerned with GOLD Taken from the BNC

GOLD-TEXT1:

In August 1989 it was assessing results from tests at sites in the Galtee and Comeragh mountains in Munster. Other companies have also **discovered gold**. Rio Tinto Finance and Exploration, a subsidiary of Rio Tinto Zinc, announced in 1987 it **found gold** three miles west of Omagh, Co. Tyrone, while Ennex International said its provisional estimate of **300,000 ounces of gold** in its find in the Sperrin Mountains, also in Co. Tyrone, might need to be increased after assessment. In March 1988 North West Exploration found encouraging prospects in its **search for gold** in Co. Antrim, in a joint venture with Ennex International's subsidiary, Ulster Minerals. In 1988 Meekatharra Minerals claimed it **found gold** above normal limits near Ballymoney, Co. Antrim. Prospecting continued in other provinces, though most intensely in Connaught and Ulster. In March 1988 Glencar announced that it had **found deposits of gold**, estimating the reserves at £300 million. Meanwhile Ivernia West described results of its tests in Co. ... Waterford as highly encouraging — exploration between Kilmeaden and Kilmacthomas **found primary gold traces** of nearly two ounces per tonne— though this is of course a long way from a commercial proposition.

GOLD-TEXT2:

The recognition of gold as a symbol of excellence might almost seem an integral part of human consciousness. ... **It** owes **its** unique status to the fact that the people who developed modern science and in many other ways created the modern world community had acknowledged **the supremacy of gold** since prehistoric times. ... **The primary appeal of gold** as of other precious substances was to the senses. ... Although **the addition of gold** softens tumbaga axes, their working edges could readily be toughened by hammering. ... **The softness of gold** made it relatively easy to employ for ornamental purposes. ... **The visual splendour and durability of gold** which made it an outstanding symbol of excellence were matched by the fact that however widely distributed and keenly sought in nature it has remained rare. ... Again, when civilized states extended their frontiers they frequently took occasion to prospect for and exploit **sources of precious substances and most notably of gold**. ... Expansion to north Italy brought into play the gold of the Val d'Aosta and south Piedmont, but it was the Second Punic War (218–201 B.C.) which first increased **the supply of gold** significantly by taking in the alluvial deposits of the Guadalquivir. ... In similar fashion the expansion of European sovereignty overseas, which as much as anything marked the onset of the modern age, was attended **by substantial accessions of gold**. ... Their colonization of Brazil was even more momentous since it opened up a source which during the late eighteenth and nineteenth centuries led the world **in the production of gold**. ... Exploitation of the alluvial deposits of the Altai still further east allowed Russia to displace Brazil and for a time to be the world's **leading producer of gold**. The predominance of Russia was overtaken during the latter half of the nineteenth century by a succession of **gold rushes** to more or less remote parts of the world colonized predominantly by the British. The first, that of 1848, was prompted by **the recognition of gold particles** in a Californian mill-stream. ... Between 1851 and 1855 **huge quantities of gold** were **recovered**, culminating in 1853 with 200,000 lb. ... By the first decade of the twentieth century Australia was yielding

230,000 lb of gold a year. ... **The draw of gold** attracted men from all parts of the world to a region with an inhospitable climate and provided with only the crudest amenities. To win a **pound of gold** the Rand miners had on the average to raise, crush and purify some sixty-seven tons of ore, much of it under extreme temperatures and from great depths. Although as we have seen earlier **the decorative qualities of gold** could be explored by direct hammering, the archaeological record shows that goldsmithing of a sophisticated kind in fact developed in communities which practised copper or bronze metallurgy. ... The Migration Period in Scandinavia witnessed the production of **objects made from the great quantities of gold** accumulated in the Roman world, much of which moved north when the Empire collapsed. ...

GOLD-TEXT3:

On the other hand, when we can intellectually see no connection between, for example, **being gold** and being malleable (when we have learnt of **this property of gold** only from experience), we do not know that **gold** must be malleable. ... Unless we make it trivially true that **gold** is malleable, by explicitly including malleability in our idea of **it**, we can perceive no connection between **the ideas of gold** and malleability; our observation and experiment do not tell us that **gold** must be malleable; we have no knowledge that **it** is. ... The idea of a triangle is made up from the ideas of being a closed figure, and having three straight sides; **the idea of gold** from those of yellowness, malleability, and fusibility. ... **The definition of gold** is simply what we mean by the word, the complex idea or nominal essence we have in our minds when we speak of **it**. This idea or nominal essence will vary from person to person; **goldsmiths** know **more properties of gold**, and so have a different idea of **it** than does a child. ... Accordingly, for him, **the real essence of gold**, which accounts for and explains **those properties of gold** with which we are familiar, and which constitute our idea or nominal essence of **it**, is **its** corpuscular or atomic constitution. ... The clock has moving hands and figures; **gold** is yellow, malleable, soluble in some acids, and not in others. ... The different performances of other clocks correspond to different mechanisms; the differences in quality of different substances, **the yellowness of gold**, or the silvery colour of lead, similarly correspond to differences in the shape, size, arrangement, and state of motion of their corpuscles. ... The clock's designer would know the details of **its** real essence whereas, says Locke, none of us know **the real essence of gold**. ... **The nominal essence of gold**, our idea of **it**, is not an idea of **its** real essence. Properties of the kind which go to make up **our nominal essence of gold** are divided by Locke into "primary and original" and "secondary" (and also "tertiary"). ... **A piece of gold** has solidity, extension, shape, "mobility" (is in motion or at rest), and "number" (is one piece), and according to the corpuscular theory **the gold's corpuscles** have these qualities too. Secondary (and tertiary) qualities, such as colour and taste (and solubility in certain acids), belong to a piece of **gold** but not to **its** corpuscles. ... Interaction between **the corpuscles of gold** and those of sulphuric acid results in these arrangements being changed, a change we describe as **the solution of gold** in the acid. ... Similarly, via the intermediary of reflected light rays, interaction between **the corpuscles of gold** and those of our eyes produces in us the idea of yellowness. ... **Our idea of gold** is simply an idea of some of **its** observable properties, which are supposed to flow from **its** real essence. ... Locke's thought is that, just as we can distinguish between **the characteristics of gold** (or the clock), and **its** corpuscular constitution (or internal mechanism), so we can distinguish between the characteristic properties of a triangle, and what accounts for or explains them. ... If **our idea of gold** were of **its** real essence, ... Having external angles equal

to internal opposites follows from being a figure of three lines, but is no more a part of that idea than being yellow or malleable would be part of a detailed idea **of the corpuscular constitution of gold. ...**

Appendix B: List of Abbreviations

ACC	accusative	MASC	masculine
ADJ	adjective	M(OD)	modifier
APPOS	appositive	NEG	negation
ART	article	NOM	nominative
DEF	definite	PART	participle
DET	determinate	PL	plural
DEM	demonstrative	POSS	possessive
EMPH	emphatic particle	PREP	preposition
FEM	feminine	PRO	proform
FOC	focus	PRT	preterite
GEN	genitive	Q	question particle
H	head	REL	relative clause marker
IND	indeterminate	SG	singular
INDEF	indefinite	SGLT	singulative
INST	instrumental	VOC	vocative
INT	intensifying particle		

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Von 1968 an erschienen die von Prof. Dr. Hansjakob Seiler herausgegebenen Arbeitspapiere des Instituts für Sprachwissenschaft. Nach der Emeritierung von Prof. Dr. Seiler im März 1986 wurde eine neue Folge mit neuer Zählung und dem Zusatz "Neue Folge" (N. F.) begonnen. Herausgeber ist das Institut für Sprachwissenschaft.

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