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Descriptions and their domains

The patterns of definiteness marking in French-related creole

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The Patterns of Definiteness Marking in French-related Creoles

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Preface

The present study was originally submitted as a dissertation to the linguistics faculty of the University of Stuttgart. It develops a theory of definiteness based on the notion of unambiguity of reference. This theory is tested against a contrastive data set mainly consisting of English, Haitian Creole, and Mauritian Creole. It is shown that the cross-linguistic variation we find in the concrete expression of definiteness is connected to questions having to do with the ways in which unambiguity of reference is constructed. Two major strategies of achieving unambiguous reference are distinguished: functional assignment of individuals to other individuals (Skolem functions) on the one hand, and extraction of a single member out of a set via maximization on the other hand. Both of these strategies can again be sub-classified according to the specific manner in which the context (in a broad sense) contributes to the production of unambiguity. From a semantic point of view, definiteness is a unitary concept with clear-cut internal partitions.

The languages in the sample under consideration all display a binary split between two means of expressing unambiguous reference. With regard to the notion of underspecification, the common thread of the *SinSpec* series, this means that no language has a grammar that completely specifies the ways in which unambiguous reference is achieved. Instead, there are always certain varieties of unambiguity that are morphologically bundled together. The result of this bundling (i.e. which semantic varieties fall on each side of the morphological split) looks different from language to language. For instance, Mauritian Creole carves out deictic-anaphoric reference from "the rest", whereas English separates reference to kinds from "the rest". The exact locus of the split is motivated, though not predictable, along the lines of the unambiguity hypothesis proposed here. Consequently, both theory and description have their share in this study.

Contents

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Abbreviations

3	third person
ADV	adverb
AG	agent
AGR	agreement
ASP	aspect
CLAS	classifier
COMP	complementizer
COP	copula
DEF	definite
DEM	demonstrative
DIM	diminutive
DIST	distal
FUT	future
INDF	indefinite
IPFV	imperfective
IRR	irrealis
PL	plural
POSS	possessive
PREP	preposition
PROG	progressive
PROX	proximal
PST	past
REFL	reflexive
REL	relative
SG	singular

Note: The detailedness of the glossings is adapted to the subject and aims of the study.

Symbols

??	of questionable grammaticality / acceptability status
*	ungrammatical
#	semantically ill-formed or pragmatically inacceptable

Deutsche Zusammenfassung

In dieser Dissertation wird die Semantik von Kennzeichnungen behandelt. Unter Kennzeichnungen (‘definite descriptions’) werden hier generell definite nominale Ausdrücke mit einem prädikativen Nukleus und womöglich – sofern die jeweilige Sprache darüber verfügt – einem speziellen Determinierer verstanden. Beispiele aus dem Deutschen wären *der Tisch* oder *der König von Frankreich*. Als das semantische Alleinstellungsmerkmal von definiten Ausdrücken im Allgemeinen wird die Eindeutigkeit (‘unambiguity’) der Referenz angenommen. Die zentrale Frage, wie Eindeutigkeit mit der potenziellen Mehr-Wertigkeit des prädikativen Kerns vereinbar ist, wird dahingehend beantwortet, dass Eindeutigkeit für linguistische Zwecke als relationales Konzept aufgefasst werden muss: Eine Kennzeichnung referiert entweder auf ein eindeutiges Individuum *in einer kontextuellen Domäne*, oder aber das Prädikat selbst stellt aufgrund seiner lexikalischen Spezifizierung eine eindeutige Zuordnung her. Im Lauf der Arbeit wird auf kontrastiver Basis eine Systematik entwickelt, in der verschiedene definitheits-anzeigende Lexeme (Determinierer) mit Formen domänenrelativer Eindeutigkeit in Verbindung gebracht werden. Diese Systematik untergliedert sich in vier Positionen. Ihre Abgrenzung basiert auf dem Beitrag, den der Kontext zur Individuierung eines eindeutigen NP-Referenten leistet. Durch eine sprachvergleichende Analyse mit Schwerpunkt auf zwei französisch-basierten Kreolsprachen, Haitianisch und Mauritianisch, wird die Systematik empirisch gestützt und weiterentwickelt.

In den Kapiteln 2 und 3 wird eine synkretische Definitheitstheorie entworfen, die dann im empirischen Teil der Arbeit zur Anwendung kommt. Zunächst werden die Prinzipien der wichtigsten bestehenden Definitheitstheorien vorgestellt: Die Einzigkeits-Theorie, die Familiaritäts-Theorie und die Salienz-Theorie werden kurz erläutert und bewertet. Anschließend wird der Ansatz von Löbner (1985) besprochen, in dem zwischen sortalen und funktionalen Konzepten und daraus resultierenden Kennzeichnungen unterschieden wird. Funktionale Konzepte stellen eine eindeutige Zuordnung von Individuen zu anderen Individuen (Skolem-Funktionen) dar; so ermöglicht es z.B. das Konzept KÖNIG, einem entsprechend verfassten territorialen Gebilde eine einzige Person als dessen männliche herrschende Instanz zuzuordnen. Eine Kennzeichnung wie *der König von Frankreich* referiert folglich eindeutig, und zwar aufgrund der lexikalischen Bedeutung des Kopfnomens *König*. Sortale Konzepte wie TISCH dagegen klassifizieren ein Objekt als so-und-so seiend, nicht als in einer bestimmten Relation zu einem anderen Individuum stehend. Daraus folgt auch, dass eine Kennzeichnung wie *der Tisch*, um eindeutig zu referieren, sich nicht allein auf die lexikalische Information verlassen kann, die im Kopfnomen enthalten ist. Für solche Fälle wird angenommen, dass Eindeutigkeit erzielt wird, indem der Term-Operator ι (*iota*) das maximale (oder einzige) Individuum auswält, das in einem bestimmten Kontext die Eigenschaft hat, Tisch zu sein. Der bestimmte Artikel, wenn semantisch substanziell, bringt diesen Operator ein. – Um den Referenten einer gegebenen Äußerung von *der Tisch* ausfindig

zu machen, bedarf es also hörerseits des Wissens um den sprachlichen oder außersprachlichen Kontext (die Domäne), in dem die Äußerung stattfindet. Eben darin unterscheidet sich dieser Kennzeichungs-Typ von den funktionalen Kennzeichnungen, deren Eindeutigkeit innerhalb der Nominalphrase sichergestellt ist. Löbner (1985) stellt den Unterschied zwischen den zwei genannten Kennzeichnungstypen als Unterschied in Bezug auf den Modus der Funktionalität dar: Bei inhärent funktionalen Beschreibungen ist sie durch die invariable Bedeutung des Kopfnomens gegeben, bei sortalen Beschreibungen ist das Kopfnomen als kontextuell verankerter Funktionsausdruck zu analysieren. Dieses Vorgehen stößt jedoch auf Schwierigkeiten; insbesondere ist es nicht möglich, die postulierten kontextuell etablierten Funktionen mit der nötigen Explizitheit zu rekonstruieren. Daher scheint es besser, die lexikalisch begründete Unterscheidung zwischen sortalen und funktionalen Kennzeichnungen aufrechtzuerhalten, und Skolem-Funktionen und Maximalisierungs-Funktionen (*iota*) als zwei unabhängige Prinzipien zur Herstellung eindeutiger Referenz zu akzeptieren. Dies macht jedoch eine genauere Analyse der Kontextabhängigkeit insbesondere sortaler Kennzeichnungen notwendig.

Diese Analyse wird in Kapitel 3 gegeben, wo der Unterschied zwischen funktionalen und sortalen Kennzeichnungen mit Hilfe der Situations-Semantik modelliert wird. Situationen werden hier sehr allgemein als Sachverhalte verstanden, die sich aus einer spezifischen Kombination von Individuen, Eigenschaften von Individuen und Relationen zwischen Individuen ergeben. Situationen dienen einerseits als Auswertungs-Umstände; die Wahrheit oder Falschheit eines Satzes wird mit Bezug auf sein Zutreffen in einer Referenz-Situation (statt in einer Welt) bewertet. Diese Referenz-Situationen werden hier "Topik-Situationen" ('topic situations') genannt. Zusätzlich werden auch nominale Prädikate obligatorisch mit einer eigenen Situations-Variablen versehen. Folglich steht z.B. ein sortaler Prädikatsausdruck wie *Tisch* nicht für eine Menge von Individuen, sondern eigentlich für eine Relation zwischen Situationen (*s*) und Individuen (*x*):

(1) $[[\textit{Tisch}]] = \lambda x.\lambda s.\ \text{tisch}(x)(s)$

Die Belegung der Situations-Variablen wird nun von der Form der Nominalphrase diktiert, in die das Prädikat eingebunden ist. Insbesondere erfordert ein definiter Determinierer (im Deutschen der bestimmte Artikel *der* / *die* / *das*) aufgrund der erwähnten Eindeutigkeits-Bedingung, dass *s* mit einer Situation belegt wird, in der ein einziger Tisch vorhanden ist. Das heißt, eine Äußerung von *der Tisch* setzt voraus, dass es eine bestimmte dem Adressaten zugängliche Situation gibt, in der ein eindeutiger Tisch lokalisierbar ist. Solche kontextuell verfügbar gemachten Situationen werden seit Barwise & Perry (1983) "Rekurs-Situationen" ('resource situations') genannt. In dieser Dissertation definieren sich Rekurs-Situation über ihr Verschiedensein von der Topik-Situation derjenigen Äußerung, die jeweils zur Auswertung ansteht.

Bei funktionalen Kennzeichnungen sieht es anders aus. Diese Beschreibungen referieren auch ohne die Vermittlung des Kontexts eindeutig. Aus dieser Beobachtung wird die stärkere Behauptung abgeleitet, dass das Situations-Argument funktionaler Beschreibungen wie *der König von Frankreich* stets an die Topik-Situation gebunden werden muss, die vom dominierenden verbalen Prädikat bereitgestellt wird. Die Belegung mit einer Rekurs-Situation ist demnach für den sortalen Kennzeichnungs-Typ obligatorisch, für den funktionalen Typ dagegen ausgeschlossen. Der Unterschied in der Bezeichnungsweise zwischen sortalen und funktionalen Kennzeichnungen wird also mittels der Mechanismen ausbuchstabiert, die den jeweiligen Situations-Parametern ihre Werte verschaffen.

In Kapitel 4 wird dann die situations-semantisch rekonstruierte Unterscheidung zwischen den Kennzeichnungs-Typen mit Daten motiviert. Aus den theoretischen Überlegungen der Kapitel 2 und 3 resultiert die Erwartung, dass manche natürliche Sprachen die Unterscheidung zwischen funktionalen (kontext-unabhängigen) und sortalen (kontext-abhängigen) Kennzeichnungen im morpho-syntaktischen Aufbau der Nominalphrase widerspiegeln sollten. Als Sprache von diesem Typ wird Haitianisch-Kreol (HK) vorgestellt, eine im Westen der Karibik-Insel Hispaniola gesprochene Kreolsprache auf französischer Basis. Die präsentierten Daten basieren auf Sprecherbefragungen, geschriebenen Texten sowie Vorarbeiten aus der Kreolistik. HK, sonst klassische SVO-Sprache, verfügt über einen postnominalen definiten Determinierer *la*, dessen Verwendung gegenüber dem deutschen *das* oder dem englischen *the* jedoch eingeschränkter ist, und zwar wie folgt: *la* kann nicht mit vollständigen (siehe unten) funktionalen Kennzeichnungen kombiniert werden; diese bleiben einfach determiniererlos[1].

(2)	ENGLISCH: *the table*		ENGLISCH: *the* [*king of France*]	
	DEF tisch		DEF könig von Frankreich	
	HK:	*tab la*	HK:	[*rwa Frans*] (**la*)
		tisch DEF		könig Frankreich (*DEF)

Aus dieser Datenlage lässt sich schließen, dass in HK der definite Determinierer nicht einfach Eindeutigkeit impliziert, wie fürs Englische angenommen, sondern spezieller Eindeutigkeit *in einer Rekurs-Situation*. Die morphysntaktische Ausdifferenzierung in HK stützt somit die hier vorgeschlagene Definitheitstheorie. Interessant ist außerdem, dass *la* nicht nur bei sortalen Kennzeichnungen obligatorisch ist, sondern auch bei funktionalen Kennzeichnungen, bei denen das interne Argument implizit bleibt. Dieser Typ wird in der Arbeit von den so genannten „vollständigen" funktionalen Kennzeichnungen abgegrenzt, bei denen das Argument in der Nominalphrase selbst gegeben ist (im Deutschen typischerweise durch ein Genitiv-Objekt). Wurde zum Beispiel ein monarchisch regiertes Land in den Diskurs eingeführt, so muss auf dessen

[1] Es werden Argumente gegeben, warum die Abwesenheit des Determinierers in diesen Fällen nicht syntaktisch begründet sein kann.

Oberhaupt nicht mit *der König dieses Landes* oder dergleichen referiert werden; es kann auch einfach *der König* benutzt werden. In HK muss letztere Form nun mit *rwa la* wiedergegeben werden, das determiniererlose *rwa* wäre nicht möglich. Dieser Umstand wird damit begründet, dass die KÖNIG-Funktion im beschriebenen Fall kontext-abhängig ist, insofern sie ihr Argument (das betreffende Land) nur im Diskurs finden kann, nicht in den Grenzen der Nominalphrase selbst. Kontext-abhängige Skolem-Funktionen werden also in HK morphologisch mit der (ebenfalls kontext-abhängigen) Maximalisierungs- / Einzigkeitsfunktion (*iota*) zusammengefasst.

Funktionen können nicht nur durch das Nomen selbst bereitgestellt werden, sondern auch durch bestimmte adjektivische Modifikatoren, wie *derselbe*, *der einzige* oder das Superlativ-Morphem *–st* (wie in *der höchste*). Diese Modifikatoren können auf Mengen angewendet werden, die entweder in der Nominalphrase vollständig spezifiziert sind (*der höchste Berg in Afrika*, *dasselbe Auto wie Paul*, *der einzige Junge in Evas Klasse*) – dann bleiben sie in HK ohne Determinierer –, oder erst durch den Kontext erschließbar sind (*der höchste Berg*, *dasselbe Auto*, *der einzige Junge*) – dann erscheinen sie in HK determiniert.

Eine weitere Besonderheit des HK ist, dass der definite Determinierer auch satzwertig gebraucht werden kann, indem er dem Verb nachgestellt wird. Dieses Phänomen kann im Rahmen der Situationssemantik erklärt werden. Die leitende Annahme, dass *la* dazu dient, den Situations-Parameter eines Prädikats auf eine Rekurs-Situation zu setzen, kann nämlich auch auf verbale Prädikate übertragen werden. Allerdings ergeben sich in dem Fall besondere diskurs-pragmatische Implikationen, die ebenfalls kurz besprochen werden. Zum Schluss von Kapitel 4 wird die Verwendung von *la* in Relativsatzgefügen dargelegt, wo der adnominale und der adverbale Gebrauch des Determinierers ineinandergreifen können. So kann *la* direkt nach dem Kopfnomen stehen, oder nach dem gesamten Relativsatzgefüge; es ist aber auch möglich, dass beide Positionen besetzt sind, oder keine. Die resultierenden Bedeutungsunterschiede lassen sich mit den hier gemachten Vorschlägen zur Semantik von *la* unschwer ableiten.

In Kapitel 5 wird das auf der Insel Mauritius im Indischen Ozean gesprochene Mauritianisch-Kreol (MK) behandelt, welches ebenfalls französisch-basiert ist und ebenfalls über den postnominalen Determinierer *la* verfügt. Nach einer Einführung in die Struktur der Nominalphrase in MK werden die Verwendungskontexte von MK *la* diskutiert, die sich mit denen von HK *la* beträchtlich überlappen, wie die Beispiele belegen. Allerdings sind auch aufschlussreiche Unterschiede im Detail auszumachen. Insbesondere wird in MK der Determinierer in funktionalen Kennzeichnungen nicht verwendet, also auch dann nicht, wenn das Argument implizit ist (*der König* ist beispielsweise einfach *rwa*), und auch nicht bei allen Kennzeichnungen, die funktionale Modifikatoren beinhalten. Dieser Unterschied zwischen den zwei Sprachen wird darauf zurückgeführt, dass für die Verwendung von *la* in MK nicht allein die Notwendigkeit einer Rekurs-Situation zur Auffindung des Referenten ausschlaggebend ist, wie für HK, sondern dass zusätzlich die Bedingung gilt, dass der Eindeutigkeits-Status des

Referenten nicht vom deskriptiven Gehalt der Kennzeichnung abgelesen werden kann. Diese Bedingung trifft auf alle sortalen Beschreibungen zu (wo ein einziger Tisch ist, könnten im Prinzip immer auch noch andere sein), nicht jedoch auf solche mit funktionalem Kopfnomen – egal ob deren eindeutiger Referent nun innerhalb der Nominalphrase bestimmt ist, oder außerhalb. Somit hat MK also insgesamt striktere Anforderungen an die Verwendung des definiten Determinierers als HK.

In Kapitel 6 wird die vorgeschlagene semantische Typologie der Kennzeichnungen um eine weitere Position bereichert: Art-referenzielle Nominalphrasen werden auf der Basis der Theorie von Chierchia (1998) als ein Typ repräsentiert, der mit Hilfe des *iota*-Operators ein maximales Individuum aus einer Eigenschaft herstellt. Im Englischen (wie auch im Deutschen) sind art-referenzielle Kennzeichnungen typischerweise als nackte Plurale gegeben:

(3) *Tigers* are almost extinct. ENGLISCH
tiger.PL sind fast ausgestorben

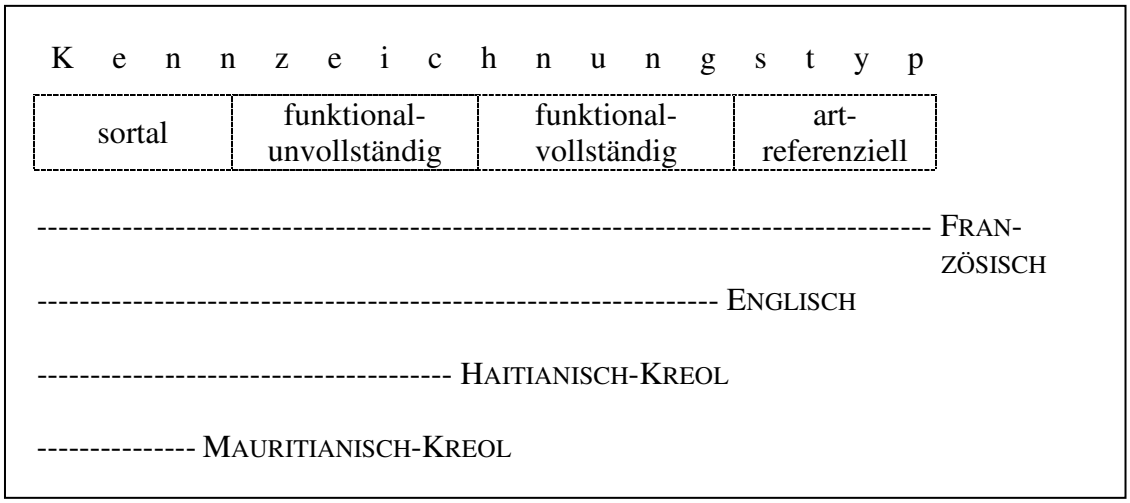
'Tiger sind fast ausgestorben.'

Nach Chierchia (1998) kann man Art-Referenz als intensionalisierte Maximalisierung verstehen. Eine entsprechende Kennzeichnung greift nicht einfach das maximale / einzige Individuum mit der Eigenschaft, Tiger in dieser oder jener Situation zu sein, heraus; stattdessen gibt sie eine Funktion an, die in jeder beliebigen Situation die maximale Anzahl an Tigern in dieser Situation auswählt. Technisch gesprochen handelt es sich um lambda-Abstraktion über die Situations-Variable des (maximalisierten) Prädikats *Tiger*. Aus dieser Analyse leitet sich dann auch die Tatsache her, dass art-referenzielle Kennzeichnungen weder in HK noch in MK mit dem Determinierer stehen können. Die Abwesenheit des Determinierers im Englischen zeigt dagegen, dass in manchen Sprachen für die Definitheits-Markierung nicht ausschlaggebend ist, ob eine Rekurs-Situation gefragt ist, um Eindeutigkeit herzustellen, sondern ob die Situations-Variable innerhalb der Nominalphrase gebunden wird oder nicht. Im Englischen steht der Determinierer genau dann *nicht*, wenn Letzteres der Fall ist. In diesem Zusammenhang wird auch auf die so genannten taxonomischen Beschreibungen eingegangen; es geht hier vor allem darum zu begründen, warum es im Englischen überhaupt möglich ist, den definiten Artikel in art-referenziellen Beschreibungen zu gebrauchen (in (3) könnte nämlich als Subjekt auch das singularische *the tiger* 'der Tiger' stehen). Zum Schluss des Kapitels werden andere aus der Literatur bekannte Ansätze besprochen, die zwischensprachliche Kontraste in der Definitheitsmarkierung zum Gegenstand haben.

Kapitel 7 resümiert zunächst die Ergebnisse der Studie. Die hier behandelten Sprachen werden in einem Schema angeordnet, das die verschiedenen Kennzeichnungstypen mit den Bereichen kombiniert, in denen die Sprachen den Definitheits-Marker verwenden. Es zeigt sich, dass die Sprachen verschiedene Punkte wählen, an denen determinierte

Kennzeichnungen von determiniererlosen Kennzeichnungen geschieden werden, und dass diese Punkte darüber definiert werden können, welche Rolle die Situationsvariable(n) in der jeweiligen Kennzeichnung spielt / spielen: indexikalische *Instantiierung* bei sortalen Kennzeichnungen, *Identifizierung* mit der Topik-Situation bei funktionalen Kennzeichnungen oder *Abstraktion* der Situationsvariablen bei art-referenziellen Kennzeichnungen.Wenn man Französisch mit ins Bild nimmt, sieht man, dass es auch Sprachen gibt, die überhaupt nicht dafür sensibel sind, welche Rolle die Situationsvariable bei der Herstellung von Eindeutigkeit spielt. Das folgende Schema ordnet Französisch, English, HK und MK den Bereichen zu, in denen Kennzeichnungen definit markiert werden:

(4) Die Bereiche der Definitheits-Markierung in vier Sprachen



Das Schema zeigt, dass Französisch seinen definiten Determinierer (*le* / *la*) für alle Arten von Kennzeichnungen benutzt; Englisch für alle Kennzeichnungen außer den art-referenziellen; HK für alle Kennzeichnungen, in denen eine Rekurs-Situation im Spiel ist; und MK für alle Kennzeichnungen, in denen die Rekurs-Situation für die Auffindung des referenziellen Arguments notwendig ist. – Im zweiten Teil des Kapitels wird diese Theorie stichprobenartig auf andere in der Literatur beschriebene Sprachen angewendet, die über ein binäres System der Definitheits-Markierung verfügen: unter anderem Norwegisch, Fering und deutsche Dialekte. Es stellt sich heraus, dass der Parameter „Ist eine Rekurssituation im Spiel?“ meist von zentraler Bedeutung für die Determiniererwahl in diesen Systemen ist, dass es aber auch noch andere Faktoren geben kann, wie z.B. die Bindung des Situationsparameters, oder Distanzmerkmale.

In Kapitel 8 werden die Implikationen der gewonnenen Erkenntnisse über die Struktur und Funktion von Kennzeichnungen für die weitere Thematik der Bereichsbeschränkung (‘domain restriction’) angesprochen. Im Mittelpunkt steht die Frage, ob Bereichsbeschränkung als ein semantisches oder pragmatisches Phänomen anzusehen ist. Es wird argumentiert, dass der hier vertretene Ansatz der

domänenrelativen Referenz für ein differenziertes Bild spricht, wonach Bereichsbeschränkung nicht *alle* syntaktischen Nominalphrasen betrifft, sondern vom referenziellen Charakter des jeweiligen nominalen Typs abhängt.

"The context-dependency of definites has well-identifiable syntactic and semantic reflexes, which must be made explicit."
(Chierchia 1995:216)

1. Introduction

This dissertation is about the interpretation of definite descriptions. Definite descriptions are nominal expressions with a predicative core and possibly a special article form in languages that have one. Examples in English would be *the table*, or *the king of France*. Their defining semantic characteristic is that they pick out an unambiguous referent from the ensemble of things to which the nominal content can apply. The theory I will propose assumes that unambiguity is the common semantic feature of all definite descriptions, but at the same time it is fine-grained enough to accommodate several sub-types of descriptions one may want to posit out of theoretical and empirical considerations. The central idea is that the contextual nature of reference is of prime importance in assigning representations to nominal expressions. In the realm of definite descriptions, this means that unambiguity of reference is recognized as a domain-relative phenomenon. The bulk of this study is about finding out what sub-types of domain-relative reference there are. Results gained from theoretical considerations will be substantiated by investigating data from French-related creole languages, which are believed to have a particularly transparent syntax-semantics mapping. Thus the distribution of the creole definite marker will have some importance in judging whether certain notional distinctions are justified on empirical grounds. A four-tiered schema of definite descriptions will emerge, differentiated by the specific ways in which the context interacts with unambiguity requirements. The significance of this classification beyond the languages investigated here will also be discussed.

For historical reasons, most contemporary theories of definite descriptions in the literature were developed on the basis of English, where definiteness is regularly encoded by the definite article *the*. However, once we set our sights beyond English, we see that there are languages that use different structures: For instance, in Russian *the table* is simply *stol* ('table'), i.e. there is no item corresponding to the English article. The Russian lexicon simply has no such thing as a definite article. Consequently, if we want to compare structures in English and Russian, we can know in advance that every definite article in English can be rendered by "zero"[2] in Russian, and that whatever

[2] Throughout this study, I will use "zero" to refer to definite description without an article form in its phonological or graphemic representation. The term is not supposed to imply that every zero definite description has a silent determiner.

semantics is advanced for the English definite article will also be applicable to the Russian zero. However, his in itself does not make comparisons between the two languages uninteresting. For instance, it will still be instructive to examine what it is that allows Russian hearers to infer that a concrete utterance token of *stol* is interpretively equivalent to what is *the table* in English, and not e.g. *a table*, the latter also being a possible rendering of *stol*. In Russian, information structure is an important factor in determining the definiteness status of noun phrases; so from Russian we learn that definiteness can interact with how information is packaged and conveyed. However, it is also quite evident that information structure does not actually *encode* the definiteness status of a noun phrase, it only allows the hearer to *infer* it. A suitable pragmatic setting can always change a default definite reading into an indefinite reading, and vice-versa. This dissertation will be exclusively concerned with definiteness marking in the narrower sense, i.e. with specialized morphological devices encoding definiteness, of which English *the* is an example. The study of definiteness marking in this narrower sense profits from cross-linguistic comparison, too. For instance, it is noteworthy that unlike English, a number of languages have more than one definite determiner form, and that, at least sometimes, the distribution of these forms has a semantic-pragmatic motivation. Lyons (1999:54) refers to Lakhota, a North American language, which has a general definite article *kį*, and a specialized "anaphoric" article, *k'ų*, which is only used when the referent has been mentioned previously in the discourse. Cross-linguistic differences of this sort are frequently appealed to when it comes to deciding whether a given lexeme or construction of a language is ambiguous: For example, the fact that Spanish has two morphologically distinguished forms for the copula verb, namely *ser* and *estar*, has been taken as evidence that English *to be* is ambiguous and can map either to the semantic equivalent of Spanish *ser* or to the equivalent of Spanish *estar*. Thinking along the same lines, we are led to ask whether the English definite article *the* is ambiguous between the meaning expressed by Lakhota *kį* on the one hand, and *k'ų* on the other hand. However, positing an ambiguity in the English definite article presupposes being clear about what this ambiguity is about; and this in turn presupposes stating what the differentiation in Lakhota is about beyond a superficial characterization such as "indicates whether the referent has been mentioned earlier in the discourse".

But perhaps ambiguity is not the right concept to work with here at all. It is also conceivable that definiteness is a composite notion, which natural languages grammaticalize with varying degrees of precision. To motivate this idea with another example from a different domain, German verbs are not morphologically differentiated between progressive and habitual aspect; thus, German *Er singt* can be rendered in English either as 'He sings' or as 'He is singing', but we would still not want to call the German present tense ambiguous between the two readings. What we are facing here is, rather, a case of underspecification. Accordingly, the comparison between the binary system of definiteness marking in Lakhota and the unary scheme of English could also lead us to the conclusion that English *the* is not ambiguous, but underspecified in terms of what "kind of definiteness" a given definite description typifies. This is also how

Lyons (1999:159) proposes to look at it. A solution along these lines requires us to study the precise conditions of use of definiteness markers across languages, so that we are in a position to spell out what "kinds of definiteness" there are in the first place. For instance, from Lakhota we learn that retrievability from the previous discourse is one such "sub-kind" of definiteness. This finding then refers us back to more theoretical considerations concerning the analysis of anaphoric expressions and their relation to definiteness as a putative hypernymous concept.

Now, unambiguity of reference, which this study treats as the core semantic feature of all definite descriptions, is evidently binary: Something either is or is not unambiguous. As a consequence, the underspecification that we tentatively attributed to the English definite article cannot mean that English *the* is underspecified in the sense that its referent can be "more or less unambiguous". What I will instead argue in this dissertation is that unambiguity – as applied to reference in natural language – is not gradable but relational: A definite expression refers unambiguously relative to a certain type of informational domain. The resulting empirical agenda is then to link variation in definite determiner use within and across languages to variation concerning the nature and function of those informational domains. A preliminary diagnosis of the difference between English and Lakhota along these lines is the following: Lakhota has the more fine-grained system of definiteness marking in that it has a specialized article used only in cases where the referent is unambiguous in the domain established by the previous discourse, and another article for this and all other uses, whereas English does not differentiate between these contexts. This assumption would of course be supported if we found more languages exhibiting the kind of sensitivity we see in Lakhota article use.

Once we accept the hypothesis that definiteness marking can be sensitive to the nature and extension of the domain in which unambiguity holds, we can go back to the realm of empiricism and ask: Aside from the domain defined by the previous discourse, are there other informational domains to which definiteness marking can be sensitive? Once again, it is helpful to draw crosslinguistic comparisons to find out. The following examples illustrate a difference in definiteness marking between English and French that has nothing to do with anaphoricity:

(1) *Les* *chats* sont intelligents. FRENCH
DEF.PL cats are intelligent.PL

(2) *Cats* are intelligent. ENGLISH

(1) and (2) have what is usually called a "generic" reading: They make statements about cats as a genus, not about this or that specific group of cats. French must use the definite article in this case, whereas English must not. We can conclude from this contrast that the system of definiteness marking in English is not unary after all: The definite article

only applies when the domain in which unambiguity holds is limited in some way, so that it does not include the whole genus; this differentiation is not made in French.

As we consider more languages, we can expect to find more differentiations within the class of definite descriptions. The general hypothesis I am offering is that if a given contrast in definiteness marking is semantically motivated, it can often be analysed applying the notion of domain-relative unambiguity. This dissertation contains a case-based proposal as to how one might go about assessing this hypothesis. The two languages that are most important in this undertaking are French-related Haitian Creole and Mauritian Creole; English will serve as a basis of comparison throughout. The sort of contrast I will be concerned with here is exemplified by the following:

(3) *Tab la* twò ba. HAITIAN CREOLE
table DEF too low

'*The table* is too low.'

(4) *Plafon chanm mwen* twò ba. HAITIAN CREOLE
ceiling room my too low

'**(The) ceiling of my room* is too low.'

The question is why Haitian (as well as Mauritian) Creole needs the definite determiner in (3), but not in (4), whereas English needs it in both cases. According to my hypothesis, Haitian Creole grammar is sensitive to whether unambiguity is realized within the confines of the noun phrase, and this sensitivity is reflected in the presence vs. absence of the definite determiner.

Creole languages appear to be a good testing ground on the strength of what is known about creole grammars in general: They are believed to exclude grammatical markers that are non-interpretable (such as pure agreement markers), i.e. every surface element has a role to play in the transfer to the conceptual interface. Consequently, if a creole language has a definite determiner, it can be assumed to be semantically substantial whenever it appears. That this has a certain significance can be illustrated *ex negativo* by the following pair of sentences from German. Like in English, the German definite article does not normally appear when a whole genus is denoted; but (5)b shows that in some cases, the definite article appears even then:

(5)a Paula mag Bohnen lieber als *Möhren*. GERMAN
'Paula likes beans rather than carrots.'

(5)b Paula zieht Bohnen *den Möhren* vor. GERMAN
'Paula prefers beans over carrots.'

(after an example in Krámský 1972:29)

The definite article does not appear with *Möhren* 'carrots' in (5)a, as expected, but in (5)b, which is practically identical in sense with (5)a, the article suddenly appears. The reason for this is that the German definite article is case-marked, and, due to a conspiracy of the inflectional properties of the common nouns used and a certain freedom in word order (not given in English), case is the only way to determine what is the direct object and what is the indirect object in (5)b. Such instances, in which definite article use is only a means to an end, are not to what we expect in creole grammars, and so we can be quite sure that a given definiteness marker in creole actually serves to mark definiteness, and nothing else. Another troubling example is the following, from English:

(6)a I heard it on *(the) radio.

(6)b I saw it on (?the) TV. (Bolinger 1975:103)

There is no semantic reason why the object noun phrase in (6)a should have the article, whereas that in (6)b is bare. Such idiosyncratic variation in the use of the definite determiner is predicted to be absent in creole, too.

This study begins with a more theoretical part (chapters 2 and 3); it is relatively compact, and strictly geared towards the points dealt with in subsequent chapters; this also means that the discussion does not take care of all of the multifarious profundities and ramifications the addressed problems have in store. Chapters 4 to 7 are more empirical, but some of the insights gained in this part will help to flesh out bits of the theory. The concluding chapter 8 is again more on the theoretical side. The following is an overview of the individual chapters:

In chapter 2, the most widely held theories of definiteness presently on the market are outlined, namely the familiarity theory, the uniqueness theory, and the salience theory. After that, the theory of definiteness I will be working with for the rest of the study is presented. It is based on the mathematical notion of unambiguity, and it integrates elements of all of the aforementioned approaches. Following Löbner (1985), a fundamental distinction between two types of definite descriptions will be made: So-called "sortal" descriptions are built from sortal nouns, such as *table*, *cat*, *city*, whereas so-called "functional" descriptions are built from function-denoting nouns, such as *king*, *capital* or *murderer*, and an argument. The two differ in their semantic constituency, and it is argued that the definite article has a substantial role to play only in sortal descriptions.

Chapter 3 proposes to capture the context-dependence of noun phrases in terms of "situations". Some relevant notions of situation semantics are introduced. It is assumed that all predicates come out of the lexicon with a situation argument, and that the situation argument of verbal predicates serves as the circumstance of evaluation for

contextualized utterances. Circumstances of evaluation are called "topic situations". The situation argument of nominal predicates receives its value depending on the interplay between the noun meaning (sortal or functional) and the determiner meaning. If a definite i.e. unambiguity-signalling determiner is combined with a sortal noun, the situation argument of the noun phrase must be a situation different from the topic situation. Situations different from the topic situation are called resource situations. It is also shown that where functional definite descriptions are concerned, resource situations are at most of indirect importance. The chapter concludes with a discussion of the notion of "incompleteness" as applied to definite descriptions.

In chapter 4 the theory developed thus far is applied to Haitian Creole. It is shown that the definite determiner in this language, termed *la*, is only applicable to sortal descriptions, functional descriptions being bare, and it is proposed that this is so because *la* expresses unambiguity with respect to a resource domain only. When unambiguity is assured noun-phrase internally, as is the case with argumentally-saturated functional descriptions, the determiner is absent. A range of more complex nominals involving adjectival modifiers such as *only* or *same* is considered with the purpose of corroborating the claim that *la* signals the need for a resource situation to produce an unambiguous referent. It is shown that descriptions built from functional head nouns can be *la*-determined only if their internal argument consists of a sortal description. The chapter also includes a discussion of the use of *la* as a sentence-level determiner. It provides indirect evidence for the situation-semantic tenet that both verbal and nominal predicates are evaluated with respect to the same type of entity (viz. situations). The rules of relative clause formation serve as an illustration of how the nominal and clausal use of *la* may interact to produce subtle semantic differentiations.

Chapter 5 examines the definite determiner in Mauritian Creole. This language differs from Haitian Creole in ways that will help us carve out a third position in our semantic typology of definite descriptions. Generally speaking, Mauritian Creole uses its definite determiner more parsimoniously than Haitian Creole, especially where functional descriptions with unpronounced arguments (also called "inferables") are concerned. This observation leads to a slightly different rule of definiteness marking for Mauritian Creole: The determiner is only used if the descriptive material alone does not guarantee unambiguity of reference, whether a resource domain is involved or not.

In chapter 6, kind-referring nominals are considered. It is shown that these can be analysed as definite descriptions, too, if one considers them as inherently intensional expressions representing individual concepts. This is a case of unambiguous reference in the total absence of contextual influence, equaling the fourth and final position in the referential typology of descriptions. The definite determiner use in creole as well as English is discussed from this perspective. English will be seen to be particularly interesting for this chapter, because, as example (2) above shows, English is sensitive to the intensional or non-intensional status of the definite nominal referent.

Chapter 7 wraps up the results of the previous chapters with a direct comparison of determiner use in Haitian and Mauritian Creole and English in a direct comparison; French is added to this scenario. The interplay between unambiguity and domain selection is confirmed to be the decisive factor in the distribution of determiners. The hypothesis is tested against a sample of other languages with split-definiteness-marking systems, and it is sketched how additional semantic differentiations, such as situation parameter binding or proximity distinctions, could be integrated into the approach.

In chapter 8, the study is concluded with a discussion of the issue of domain restriction against the background of the findings brought to light in earlier chapters. It is argued that a semantic theory of domain restriction is viable if it can differentiate between different ways in which the context can affect the interpretation of a noun phrase.

2. Semantics of definite descriptions

In this foundational chapter, I will introduce four popular theories of definiteness. With an eye to the data to be discussed in later chapters, the presentations will mostly be confined to definite descriptions, by which I mean definite expressions with a predicative core. Other types of definite expressions, such as personal pronouns, demonstrative pronouns or proper names will only play a marginal role in this study.

2.1 Theories of definiteness

Two major themes of this dissertation are the analysis of definiteness marking in languages where this phenomenon has not yet been described in much semantic detail yet (Haitian Creole, Mauritian Creole), and the comparison of these findings with data from languages where the semantics of definiteness marking has received more attention (English, French). However, before we start analysing "definites" in any given language, and before we start comparing the patterns of definiteness marking in different languages, something must be said about the semantics of definiteness from a general point of view. Clearly, we need a "tertium comparationis", a criterion that tells us whether a given noun phrase[3] *is* a definite noun phrase, independent of its specific form. Only then can we start drawing reasonable comparisons, as Chesterman (1991:162ff.) stresses. This author contrastively studies the realization of definiteness in English and Finnish. Even without going into the details of said contribution, it is interesting to note what categories are used in carrying out the comparison there, because Chesterman is driven by the same general query that also inspires this study: Accounting for cross-linguistic variation without giving up the unity of the supposed underlying semantic category. After going through a variety of contexts that are considered sensitive to definiteness distinctions in both languages, the author comes up with a semantic matrix combining the three features [±*one*], [±*all*], and [±*locatable*] (ibid:169ff.), all of which are placed on a par for purposes of analysis. The feature [±*one*] declares whether the definite's referent set has a single member or not; Chesterman uses it to account for certain case-marking alternations in Finnish, a language with no articles. In English, this feature only has an influence on determiner choice inside the category of *in*definite noun phrases, namely, *a* vs. (plural) *some*. Given that none of the languages dealt with in this dissertation has a case marking system even remotely similar to that in Finnish, the feature [±*one*] used by Chesterman can be disregarded here. The two remaining features, [±*all*] and [±*locatable*], are the distillates

[3] The term "noun phrase" is meant to be neutral with respect to syntactic structure; for instance, a "noun phrase" could be a "DP", "NumP", or "NP" in the syntax.

of two general aspects of definiteness that have led to two major semantic theories: The theory behind the feature [±*all*] is known as the "uniqueness theory of definiteness", and the theory behind the feature [±*locatable*] as the "familiarity theory" of definiteness. Since both these features will also play a role in the analysis to be developed below, though under different denominations, it will be useful to look at the theories that are based on them in some detail. This will happen in the following sub-section where, besides the familiarity and the uniqueness theory, I will also put in some remarks on a third theory of definiteness, based on the concept of discourse salience.

2.1.1 The familiarity theory of definiteness

The familiarity theory goes back at least to the work of Christophersen (1939), a study which investigates the meaning of the definite and indefinite articles in English. Christophersen's epoch-making term "familiarity" is best explained in his own words:

> "The article *the* brings it about that to the potential meaning (the idea) of the word is attached a certain association with previously acquired knowledge, by which it can be inferred that only one definite individual is meant. This is what is understood by *familiarity.*" (Christophersen 1939:72)

The familiarity theory is centred around the idea that "to the meaning of the word is attached a certain association with previously acquired knowledge."[4] Hawkins (1978) uses the term "locatability" (in a shared set of mental representations) in his adaptation of the familiarity theory, and Chesterman follows him in calling the relevant feature "locatable". One can phrase the familiarity principle as a constraint on the use of definite expressions: "Do not use a definite noun phrase unless the intended referent is already known."

It is a bit unfortunate that Christophersen does not relate familiarity more clearly to the perspective of the hearer, since it is actually the hearer's knowledge state that a speaker must take into account when using a definite expression. Therefore, a speaker cannot utter the following sentence out of the blue:

(1) *The policeman* stopped my car this morning.

The use of the definite description *the policeman* will not be felicitous unless the hearer has a readily accessible representation of the policeman in question. In this respect, the definite noun phrase *the policeman* differs from the indefinite *a policeman*: the

[4] The above quote makes it evident that for Christophersen, familiarity cannot be had without uniqueness ("only one definite individual is meant"). The theory to be developed below will vindicate Christophersen in more formal terms.

following could well be uttered without the addressee having previously acquired knowledge about the policeman that the speaker is talking about:

(2) *A policeman* stopped my car this morning.

There are, however, passages in Christophersen (1939) showing that the author did consider the previous knowledge of the *hearer* to be crucial after all:

> "For the use of a *the*-form it is necessary that the thing meant should occupy so prominent a place in the listener's mind that by the mention of the form the right idea is called up." (Christophersen 1939:69)

Interestingly, the rather obvious difference between (1) and (2) did not motivate Christophersen to base the distinction between the definite and indefinite article in English on the opposition of "familiar" vs. "non-familiar". Rather, Christophersen devised a separate theory for the indefinite article, according to which it is neutral with respect to familiarity and serves to express the "unity" of the associated referent, where "unity" is, roughly, what makes a denotatum countable.[5] Thus Christophersen saw the determiners *a* and *some* (as in *a table* vs. *some furniture*), not *a* and *the*, as building a semantic paradigm.

The familiarity theory of definiteness was revived some forty years later as discourse semantics began to emerge, with Karttunen (1976) as an important inspiration. What motivated the development of those theories were primarily problems posed by so-called "donkey-sentences", in which pronouns act as if they were bound variables, although they are outside of the scope of their supposed binders.[6] The solutions that were proposed for these problems were then worked out into theories of definite expressions, including definite descriptions, in general.

Heim (1982, chapter III) sees her "File Change Semantics" as a development of Christophersen's familiarity theory, but unlike Christophersen she *does* analyse the (English) definite and indefinite article as constituting a fundamental semantic paradigm. Heim presents a theory in which reference relations are mediated by a level of discourse representation which she metaphorically calls "the file". The file is the place where information about the entities introduced in the discourse is stored on a number of individual file cards. The job of indefinite expressions, like *a policeman*, is to introduce new file cards. File cards are labelled by variables. An utterance of (2) would trigger an instruction to begin a new file card, identified by a distinct variable, and to

[5] The idea of indefinite descriptions being neutral (or "unmarked") with respect to familiarity was later taken up by Hawkins (1991).

[6] A classic example of a donkey-sentence would be:

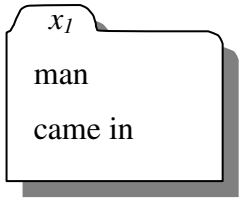
(i) Every farmer who owns a donkey beats it

where intuitively speaking the pronoun *it* should be bound by *a donkey*, although the latter expression does not c-command, and thus cannot bind, the pronoun.

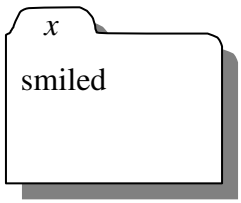
add all subsequent information pertaining to that variable thereon. Thus, (2) would require storing the information 'is a policeman' and 'stopped speaker's car this morning'. In contrast, a definite expression includes the instruction to the hearer to find a file card already in his file, and to add the information given in the main predicate to that pre-existing card. Therefore, (1) presupposes that the hearer already has a card in his file such that the utterance of *the policeman* allows him to get out this card from the file. The linguistic phenomenon that this system handles most elegantly is anaphora. The following example shows this

(3) A man came in. The man smiled.

Again, the indefinite article signals that the introduction of a new file card, identified by an indexed variable, is required, and the predications are to be added on that card. After the processing of the first sentence, the new file card looks like this:



The second sentence begins with the definite description *the man*. According to Heim's theory, what happens is that the hearer locates a card in his file and copies the information contained in the main predicate, i.e. *smiled*, onto this card. The card must match the descriptive content of the definite expression; that is, the information that the discourse referent in question is a man must already be present on the card in question. Therefore, definite descriptions are presuppositional in two respects: They presuppose that the hearer already has a matching card in his file, and that the individual referred to by the definite expression fits the description included in the definite. These two presuppositions are interdependent, though, insofar as the first one can hardly be resolved if the second one cannot. Heim's representation of the second sentence in (3) would simply be



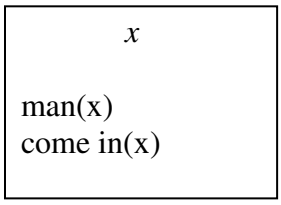
What is left to the hearer is a) finding the right index for the variable, i.e. the file card on which to store the new information, and b) updating that card with the information 'smiled'. The fact that the discourse referent sought is a man is not represented anywhere, because file cards store only the information that is asserted. From this assumption, it follows that the familiarity of the discourse referent that a definite

expression implies is a non-assertional component of meaning, an idea which I will pick up shortly.

Finally, complete files are evaluated for truth with the help of a satisfaction function. It checks if there is at least one sequence of individuals in the world under discussion that correspond to the sequence of cards in the file, and that have the properties and stand in the relations that the file card entries lay down. If yes, the file is true, otherwise it is false.

To summarize, Heim proposes that the rule "For every indefinite, start a new card; for every definite, update a suitable old card" (Heim 1982:276) captures the gist of the semantics of definite and indefinite noun phrases. The relativisation of familiarity to discourse entities instead of objects of the external world (as more traditional grammars would have it) lends further credibility to this very notion.

A proposal similar in many respects to Heim (1982) is Kamp's (1981) "Discourse Representation Theory" (DRT). Kamp also introduces an intermediate level between utterances and real-world entities, at which "Discourse Representation Structures" (DRSs) are built. The system is incremental, in that each incoming chunk of information is integrated into one superordinate structure which encompasses the content of the whole discourse.[7] The "file cards" in Heim's system are "discourse referents" in Kamp's. They are also written as variables. An indefinite noun phrase introduces a new referent into the discourse. A definite noun phrase also does so, but has an additional condition saying that the discourse referent so introduced is identical to some other discourse referent already present in the overall DRS. Consequently, the distinctive feature of definite expressions is familiarity in DRT, too. Unfortunately, Kamp (1981) does not talk about definite descriptions, only about proper names and pronouns. My DRS for example (3) given below relies on the assumption, not made by Kamp, that anaphoric definite descriptions can be assimilated with anaphoric pronouns.[8] I will show how discourse representation proceeds in DRT. After the first sentence, we have the following, simplified[9] DRS:

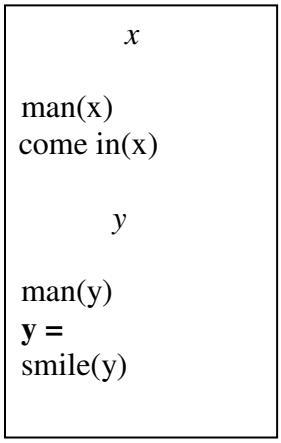


[7] The integration can take various forms. Some expressions, like negation or universal quantifiers, introduce "sub-DRSs" inside the main DRS. The expressions used in the examples are of the kind that contribute directly to the main DRS.

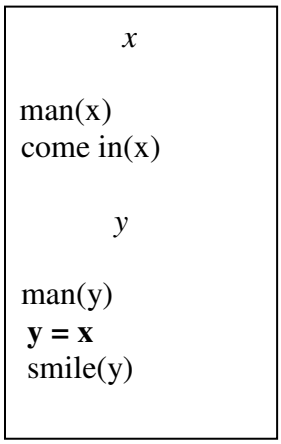
[8] Kamp & Reyle (1993), a standard reference on DRT, does not include an explicit account of definite descriptions, either.

[9] I disregard tense and aspect.

Adding the second sentence *The man smiled* preliminarily yields the following expanded DRS:

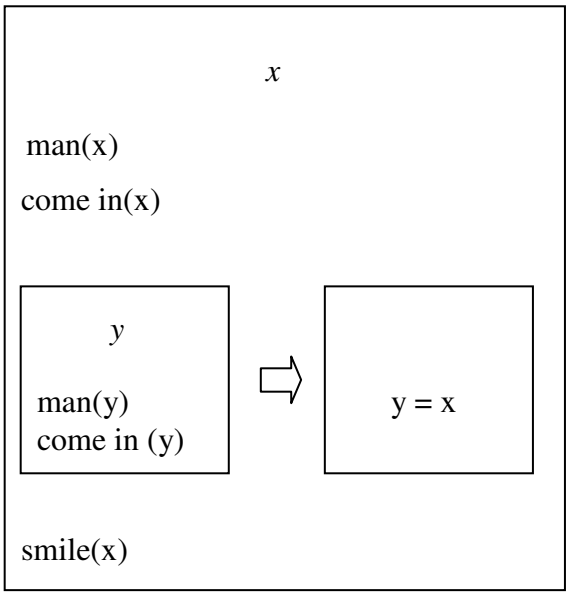


The part that brings out the definiteness of *the man* is the equation '*y* = …'. It is how familiarity is fleshed out in DRT. The hearer has to find a discourse referent to insert on the right-hand side of this equation in order to complete the DRS. Again, the referent must already be accessible in the DRS under construction, and furthermore it must be a man, as the condition *man(y)* specifies. The presence of the referent *x* in the same DRS allows the identification, so that the complete DRS for (3) can look like this:



This DRS includes information about a single individual, as it should be. If the second sentence in (3) had been *he sat down* instead of *the man sat down*, the only thing that would change is that the predicative condition *man(y)* would disappear from the DRS (or possibly be supplanted by the predicate *male*).

Although Discourse Representation Theory is well suited to familiarity-based explanations, there is no intrinsic link between the two: Definites can just as well be represented as carrying uniqueness-implications. Along the lines of Kadmon (1990), (3) would be mapped to the DRS right below. Uniqueness is established through an added condition requiring that every discourse referent that is also a man and came in must be identical with the one introduced:



Some DRT theorists use a combination of a familiarity condition and a uniqueness condition to represent definite descriptions, e.g. Robinson (2005). Kamp, van Genabith & Reyle (to appear) analyse anaphoric descriptions via a uniqueness condition that is relativised to a contextually-provided set of objects.[10]

Complete DRSs are evaluated by an embedding function. This maps sequences of discourse referents onto individuals in a model and checks whether the descriptive conditions attached to the discourse referents are satisfied. Just like FCS, DRT implies a shift of outlook away from the static, truth-conditional investigation of isolated sentences toward dynamic meaning where the semantic contribution of expressions is captured in terms of how they change the context (the file, the input DRS). This viewpoint is particularly well-geared to the treatment of pronouns and definite descriptions; both these noun phrase types are characteristically means of creating discourse coherence in that they are often used in order to anchor new information to information already known to the discourse participants.

I mentioned in connection with Christophersen (1939) that taking into account the perspective of the hearer is crucial for an appropriate application of the term "familiarity". Neither Kamp nor Heim talks about the hearer often, but his perspective is implicit in their work, too: Files as well as DRSs are the sort of structures that reflect the information shared by all the interlocutors. So, whatever is described as "being in

[10] Presupposition resolution in DRT knows more sophisticated treatments than what the above DRSs suggest. Since van der Sandt (1992), it has become common in DRT to notate the presuppositions included in a sentence in a separate, preliminary DRS, which is merged at some point with the main DRS according to special rules of resolution, making it possible to predict the scopal properties of presuppositions.

the file" or "being in the DRS" must necessarily be part of the hearer's information state, too.

The notion of familiarity as espoused by the theories of discourse representation is important for this study because it provides an account of how certain descriptions are connected to their referents. Those theories can give a straightforward answer to the question of how an indefinite description, like *a man*, is different from a definite description, like *the man*, and how it comes about that the latter needs anchoring to a particular context to find its referent. This aspect of utterance interpretation will play a major role below, where multi-sentential discourse will be considered.

On the downside, the familiarity theory of definiteness is not appropriate when it comes to analysing another type of descriptions, called "functional", which do not imply familiarity but are marked definite all the same. Functional descriptions establish a mapping between noun phrase-internal constituents. An example would be *the mayor of a small town in the Mid-West*. We cannot say that the addressee must be familiar with the referent. Note that this description could well appear in the very first sentence of a text, when the file or DRS is still empty. Heim (1982:370ff.) recognizes this problem and tries to cope with it by developing a rule of "accommodation". Accommodation is a mechanism by which new information is added to the file in the usual manner although for some reason the speaker presents it as old, familiar information. Abbott (2000:1424ff.) convincingly argues that accommodation is not an adequate concept to deal with definite descriptions such as those which I am here calling "functional". We thus seem forced to admit that definiteness cannot solely be based on familiarity. To avoid fragmenting the concept of definiteness, I will try to show that uniqueness (or "unambiguity", as I will more precisely call it), rather than familiarity, is the basic concept with which to analyse definites, and that familiarity is a property of a sub-class of definites.

2.1.2 The uniqueness theory of definites

The uniqueness theory of definiteness is closely tied to the philosopher Bertrand Russell. In his "On Denoting" (1905), Russell analyses definite descriptions as existential quantifiers with an additional constraint making sure that the individual which the quantifier brings into play is the *only one satisfying the descriptive condition*. Russell's own favourite examples were syntactically complex descriptions, like *the father of Charles II*, *the king of France* or *the author of Waverley*. These expressions appear to imply that Charles II has only one father, that France has only one king (at any given time), and that "Waverley" has only one author, respectively; what they do *not* appear to imply is that the hearer is familiar with the referent (the father, the king, the author). Since I will argue below that *the father of Charles II*, *the king of France* and *the author of Waverley* belong to a class of descriptions that are not straightforwardly

amenable to Russell's theory, despite his own conception, I will introduce his theory with another example, which happens to have been advanced to *dis*prove it. (The air of absurdity will resolve as we proceed.) Imagine for a moment that we are in my office, in which there is obviously only one table, and this table is covered with books. In that situation, I can truthfully say

(4) The table is covered with books.

According to Russell, a sentence like this has to be analysed by decomposing it into three major conjuncts, phrased in (4)' and formalized in predicate logic in (4)F:

(4)'

i)	There is an object, such that	– *assertion of existence*
ii)	**every object that is a table is identical with this object**	– *assertion of uniqueness*
iii)	and this object is covered with books.	– *predication*

(4)F $\exists x$ **[$\forall$y [table(y) $\leftrightarrow$ y = x]** & covered_with_books(x)]

The initial quantifier is responsible for the existential commitment, and the universal quantification in connection with the identity predicate (in boldface) guarantees that any entity described as a table is the only such entity around. Thus the whole of the definite description, appearing as a unit in natural language, dissolves into a quantificational structure at the level of logical analysis. In fact, it was Russell's (1905) main aim to show that sentences such as (4) do not have a logical subject, i.e. do not involve a term that refers to a specific entity. Russell later introduced the *iota*-Operator as an abbreviation of the existence- and uniqueness-clause, so that (4)F can be written less awkwardly as in (4)F':

(4)F' covered_with_books (ιx. table(x))

If we now exchange the definite article for an indefinite one, the only difference is that the uniqueness condition disappears:

(5) A table is covered with books.

(5)'	i) There is an object that is a table,	– *assertion of existence*
	ii) and this object is covered with books.	– *predication*

(5)F $\exists x$ (table(x) & covered_with_books(x)]

Accordingly, Russell viewed the definite article as a quantifier, or rather as a combination of the existential and the universal quantifier. Barwise & Cooper (1981) transferred this idea to the theory of generalized quantifiers, in which sets are made to be possible objects of quantification. Consequently, *the table* can be rendered as a single meaningful constituent at logical form:

(6) [the x: table(x)] [covered_with_books(x)]

Here, *the table* denotes the set of all sets in which the singleton set of tables is included, and so (6) is true if the set of things covered with books is in that set of sets. The general truth conditions of *The F is G* can be written as follows:

(6)F [the x: $F(x)$] [$G(x)$] is true iff $|\mathbf{F} - \mathbf{G}| = 0$ and $|\mathbf{F}| = 1$

where **F** and **G** stand for the sets of things that are *F* and *G*, respectively.

Strawson (1950) famously criticized Russell (1905) on the ground that Russell was erroneous in assuming that definite descriptions are used to assert the existence and uniqueness of the referent in the same way that they assert a certain property of the referent in the main predication. Roughly, Strawson's claim is that the existence and uniqueness of the referent of a definite noun phrase do not become building blocks of a general proposition expressed by a description-containing sentence, as illustrated in (4)F, but are, rather, merely a side-effect of speakers using definite descriptions in order to refer to particular individuals. This led Strawson to the claim that definite descriptions *presuppose* the existence and uniqueness of the referent. Strawson's test for presuppositionality is the following: If a proposition *p* presupposes another proposition *q*, then *q* must hold for *p* to be true or false. Concerning (4), this means that there must be a unique table in order for (4) or its negation (4)N to be true:

(4) The table is covered with books.

(4)N It is not the case that the table is covered with books.

Russell's theory is widely regarded as foundational for the uniqueness theory of definiteness, and it has had great influence on subsequent research in that vein. However, it is worth noting that one can find earlier remarks in Gottlob Frege's writings pointing in the same direction. Here are two quotes to illustrate:

> "Instead of 'the square root of 4 which is smaller than 0' we can also say 'the negative square root of 4'. We have here a case in which out of a concept-expression a compound proper name is formed with the help of the definite article in the singular, which is at any rate permissible when one and only one object falls under the concept." (Martinich ed. 1996:194)

> ("Statt 'die Quadratwurzel aus 4, die kleiner ist als 0' kann man auch sagen 'die negative Quadratwurzel aus 4'. Wir haben hier den Fall, dass aus einem Begriffsausdrucke ein zusammengesetzter Eigenname mit Hilfe des bestimmten Artikels im Singular gebildet wird, was jedenfalls dann erlaubt ist, wenn ein Gegenstand und nur ein einziger unter den Begriff fällt." (Frege [1892a] 1994:56)

> " 'The number 4 is none other than the result of additively combining 3 and 1.'
> The definite article in front of 'result' is here logically justified only if it is known 1) that there is such a result; 2) that there is not more than one. In that case, the phrase designates an object, and is to be regarded as a proper name."
> (Beaney ed. 1997:192)

> (" 'Die Zahl 4 ist nichts anderes als das Resultat der additiven Verknüpfung von 3 und 1.'
> Der bestimmte Artikel vor 'Resultat' ist hier logisch nur gerechtfertigt, wenn anerkannt ist, 1. dass es ein solches Resultat gibt, 2. dass es nicht mehr als eins gibt. Dann bezeichnet diese Wortverbindung einen Gegenstand und ist als Eigenname aufzufassen." (Frege [1892b] 1994:79)

Frege thus had the intuition that the (German) definite article signals uniqueness. What is striking, however, is that Frege, as opposed to Russell, regarded definite descriptions as complex proper names ("zusammengesetzte Eigennamen") rather than as quantificational noun phrases. The debate delineated by these two points of view is still ongoing. The quantificational view of descriptions is defended by e.g. Kripke (1977), Neale (1990), Bach (2004). The view of definite descriptions as terms is argued for in different guises by Carnap (1947), Löbner (1985), von Heusinger (1997), Heim & Kratzer (1998), Elbourne (2005).

Hawkins (1978:158ff.) notices that while the notion of uniqueness is applicable to singular count definite descriptions ((7)), it becomes problematic when plural or mass definite descriptions are considered:

(7) *The wicket* is broken.

(8) *The wickets* were brought in after the game.

(9) *The sand* was removed from the driveway.

The definite noun phrase in (7) can easily be described by way of uniqueness: (7) expresses that a unique wicket is around, which is broken. Conversely, in the case of (8), the plural marking tells us that there is no unique individual wicket around. But nor is there a unique *plurality* of wickets: Suppose that there were six wickets on the field; these could then be grouped together into many different pluralities of different cardinality. What we want *the wickets* to denote is obviously the one set consisting of all six wickets. This is why Hawkins proposes that the definite article signals *totality* of

the referent with respect to the following descriptive content, uniqueness being a limiting case of totality. *The wickets* means 'the totality of wickets around'. Hawkins coins the term "inclusiveness" to refer to the property of the definite article of including all individuals or sub-parts in the denotation of the noun.[11] On a more technical note, Link (1983) introduces a *sigma*-operator, defined in terms of *iota*, to take care of plurals. Assume that where *P* is a property of individuals, **P* is the closure under sum formation of *P*; then, by Link's definition:

(10) $\sigma x.\ P(x) =_{def} \iota x.\ {}^*P(x) \ \&\ \forall y\ ({}^*P(y) \rightarrow y \leq_P x)$ (Link 1983:307)

where $\leq_P$ is the individual-part relation. If **P* stands for *wickets*, then *sigma* picks out the maximal element composed of wickets, the desired denotation of *the wickets*.

In (9), the mass noun *the sand* likewise does not refer to any sub-portion of sand around on the driveway (of which there are arbitrarily many), but to the total amount of sand: For (9) to be judged true, *all* the sand must have been removed. Depending on the ontology of mass nouns, this case can be treated along the lines of Link's proposal, too (a mass could consist of a number of atoms of indefinite size). In keeping with a prevailing terminological convention, I will talk of "maximality" rather than "inclusiveness" to characterize definite singular, plural and mass denotations, and use the term *iota* to refer to the operation that produces singular and plural maximal entities (mass nouns will not be discussed any further in this study). Note also that Chesterman's feature [±*all*] mentioned at the beginning of this section is the translation of maximality.

If one takes uniqueness to be a universal semantic feature, the question arises as to what to say about languages commonly characterized as having no definite article, such as, e.g. Russian or Chinese. Chierchia (1998) assumes that the semantic operation that makes available the unique / maximal element from a given set is available in every natural language: If a language has an audible element fulfilling this function, then this is just what we call "the definite article" of this language, and the language in question can be called a "(definite) article language"[12]. A language that does not have such an element is a "(definite) article-less language". It has the same uniqueness/maximality operator as the article languages in its lexicon, only it has no phonological realisation for it. However, it will be shown that the dichotomy underlying Chierchia's hypothesis is too simplistic as we go along.

[11] Sharvy (1980) brings up the same argument from a more logic-inspired point of view.

[12] Of course, there is still the possibility that a language has a definite, but no indefinite article (or vice-versa), so that the label "article language" branches into two sub-labels: "definite article language" and "indefinite article language".

2.1.3 The salience theory of definiteness

Lewis (1979) criticizes the uniqueness theory for not taking into account the contextual nature of natural language. He constructs the following example to show that uniqueness cannot be the principle on which the interpretation of definite descriptions rests:

(11) [Imagine yourself with me as I write these words. In the room is Bruce, who has been making himself very salient by dashing madly about. He is the only cat in the room, or in sight, or in earshot. I start to speak to you]:

The cat_1 is in the carton. The cat_2 will never meet our other cat, because our other cat lives in New Zealand. Our New Zealand cat lives with the Cresswells. And there he'll stay, because Miriam would be sad if the cat_3 went away.

This piece of discourse contains three occurrences of the definite description *the cat*, which I indexed for clarity. The first two (in the first line) refer to Bruce. The third one (in the last line) refers not to Bruce, but to the speaker's New Zealand cat. This goes to show, says Lewis, that definite descriptions cannot imply uniqueness in Russell's sense, because then it would not be possible for two verbalisations of *the cat* in one discourse to refer to two different individuals. Lewis' alternative proposal is that definite descriptions do not refer to the only individual satisfying the descriptive content, but rather to the currently most salient one. Thus, the first two occurrences of *the cat* in (11) refer to the *then* most salient cat, which is Bruce. The ensuing sentences introduce another cat, thereby changing the discourse-salience ranking regarding the set of cats. As a result, the third and final occurrence of *the cat* refers to the *then* most salient cat, which is now the speaker's New Zealand cat. (11) also displays two ways in which referents can become salient: through perception of the non-linguistic context (Bruce), or introduction through a linguistic entity (the noun phrase *our other cat*). Lewis admits that the sort of salience re-ranking displayed in (11) is "to some extent confusing and hard to follow" (ibid:180), because the hearer must work out the salience shift through a process of accommodation. In Lewis' example, this process is facilitated by the fact that the salience-changing expression includes the adjective *other*, which makes the introduction of a second referent satisfying the descriptive content explicit. Normally, speakers try to comply with a one-time established salience ranking. This convention keeps anaphoric chains together.

Von Heusinger (1997) develops Lewis' ideas into a formal theory of nominal reference, using choice functions as a major technical tool. A choice function is a function that maps a non-empty set to one of its members. Choice functions are better-known as means of formalizing indefinite descriptions (in which case function variables can be existentially quantified), but in the salience theory, they can also be used to formalize definite descriptions: A definite description is characterized as denoting the result of a choice function picking out the single most salient object from a set. Now, we already

saw that salience can change in the flow of discourse, even with respect to one and the same set. Therefore, the operator ε symbolizing the choice function is indexed to particular historical contexts. A semantic representation of the noun phrase *the cat* would be

(12) $[[\textit{the cat}]] = \varepsilon_i x.\ \text{cat}(x)$

Here, the context *i* gets mapped to a dedicated choice function Φ_i defined on the set of cats. The complete expression $\varepsilon_i x.\ cat(x)$ is then a term denoting the most salient cat at *i*. The choice function approach to definite descriptions can be regarded as a generalization of the deictic use of descriptions, in that it incorporates contextual information into the construal of the referent (cf. also von Heusinger 2002).

The salience theory provides a sophisticated dynamic notion of "context" in terms of salience rankings. Example (11) shows how the context determining the suitable choice function can change when more than one individual satisfying the descriptive content is placed in the discourse. The first two utterances of *the cat* in (11) are evaluated with the help of a choice function mapping the set of cats to Bruce, the then most salient cat (thanks to Bruce's visibly mad behaviour). The third occurrence of *the cat* is evaluated by a choice function mapping the set of cats to the speaker's New Zealand cat. The prototypical expressions responsible for such changes in the salience ranking with respect to descriptive conditions are indefinite noun phrases. But (11) shows that definites can also change a salience ranking. In (11), it is the possessive construction *our other cat* that causes a change of salience with respect to the set of cats. Von Heusinger (1997:191ff.) posits the category "salience change potential" as a second element of meaning besides the purely denotational one to represent the semantics of different expression types.

The salience-*cum*-choice functions approach to definite descriptions is interesting for this study in two respects: Firstly, it analyses definite descriptions as terms, and this is an approach that I will avail myself of, too.[13] Secondly, the concept of salience will be important in the investigation of deictic and anaphoric dependencies. Although I will describe choice as being based on uniqueness rather than salience, salience will turn out to be an ancillary factor, namely in cases in which there is a competition between several candidates for uniqueness status relative to a given predicate. While this happens relatively rarely with more specific predicates like *cat*, we encounter it quite frequently with vaguer notions like *thing* or *person*.

A drawback of the salience-*cum*-choice functions approach is that it is vulnerable to the same criticism as the uniqueness theory: Not every definite description can be rendered as a kind of selection operation from a set. Choice via salience is only applicable to the

[13] There will be little in the way of explicit arguments for this position, though. Cf. Elbourne (2005:98ff.) for a recent summary of arguments in favour of treating definite descriptions as expressions of type *e*.

non-functional type of expressions. So while *the cat* can well be analysed along the lines of (12), no such treatment seems feasible for descriptions like *the mayor of a small town in the Mid-West*, or *the father of Charles II*. They rely neither on choice nor on salience.

In what follows I will sketch a model for definite descriptions that avoids the drawbacks of the three theories presented above (or so I hope). With Löbner (1985), I take the view that we need to acknowledge a fundamental difference between two types of descriptions, called sortal and functional. I will begin with some remarks about the first type, around which the above theories are built, and then say more about the functional description type and how to deal with it. The exposition of this theory will be completed in chapter 3, where the domain dependency of definite descriptions will be analysed in situation-semantic terms.

2.2 A functional theory of definite descriptions

2.2.1 Definite descriptions as terms gained from property-denoting expressions

I take it that in some definite descriptions (to be delimited below) the article is an expression introducing a choice function. For instance, I assume that the English definite description *the table* has the following internal semantic structure:

(13) [[*the table*]] : [[*the*]] ([[*table*]])
<e> <<e,t>,e> <e,t>

i.e. a definite description such as *the table* can be decomposed (not surprisingly) into two main constituents: the article, and the nominal description. The two combine via functional application. This ties in with the fact that contemporary syntactic theory usually analyses phrases like *the table* as "determiner phrases" (*DPs*), where the definite article occupies the head of a special projection (abbreviated *D*)[14], which in turn selects the lower projection (the *NP*) in which the noun is located. The parallelism between syntax and semantics, seen as desirable by many, is then executed by letting the higher functional head (where the article resides) denote a function which has the lower node as its domain and whose output can be read off where the DP is closed. According to the remarks above, this function, which I will call *iota*, is prompted by a term operator.

[14] Some theorists assume that free-standing article forms occupy the specifier rather than the head of the determiner projection. An example is Lyons (1999:301).

The operator derives an entity from a property[15] – not any old entity, but the unique / maximal entity that the property affords.

(14) a) [[*table*]] = λx. table(x)
iota →
b) [[*the table*]] = [[*the*]] ([[*table*]]) = ι(λx. table(x))

Unlike Russell, but along with Chierchia (1995) and Heim & Kratzer (1998), I use the *iota*-sign as an independent, irreplaceable tool of our logical inventory, not as an abbreviation for a quantificational structure. I will omit the *lambda*-sign immediately following the *iota* for easier legibility:

(15) ι(λx. table(x)) = ιx. table(x)

This term denotes the unique element satisfying the predicate *table* in a given model.

In addition, I make the standard assumption that the singular noun *table* denotes the set of atomic tables, whereas the pluralized *tables* denotes the set of all pluralities of tables. If the denotation of *tables* is maximized, we get the largest plural individual consisting of only tables. If there are three tables a, b, and c, *the tables* refers to the unique sum individual consisting of three tables, written a⊕b⊕c. It can neither refer to the plurality a⊕b, nor to a⊕c, nor to b⊕c. And if there is only one table, *the tables* does not denote anything at all. Thus *the tables* presupposes the existence of a plurality of tables. This automatically ensures the existence of a maximal plural individual made up of tables. In contrast, if the denotation of *table* is to be maximized, we have to start from a singleton set, because if we had a set consisting of two ore more atomic tables, we could not make out a maximal individual to begin with. So what the definite article in front of *table* does, technically speaking, is turn a singleton set into an individual. At the same time, however, the definite article conveys the very singleton status of the restrictor set, and thus uniqueness: The singular predicate *table* itself is neutral with respect to the number of elements its denotation contains. Thus the indefinite description *a table* presumably presupposes the possibility of there being more than one element in the restrictor set, and the same goes for the quantifiers *every table* or *no table.*

If definite descriptions are analysed as individual-denoting, then the uniqueness implication is relegated to the field of background conditions that must hold in order for an expression to be used felicitously. Strawson's presuppositional view of uniqueness is more appropriate than Russell's in the present framework. In more technical terms, uniqueness is a condition on the definedness of the *iota*-function. I will say that unique / unambiguous reference is part of the "background implications" that certain expressions are endowed with in an utterance context; presuppositions and conventional implicatures are two instances of such background implications.

[15] I use the term "property" sloppily, so that non-intensional denotations of type <e,t> are also properties.

We will see next that not every definite description can be analysed using choice functions, which forces us to admit a second sort of function: not from sets to individuals, but from individuals to individuals. The central insights here stem from Löbner (1985).

2.2.2 Definite descriptions as terms gained from individual-denoting expressions

2.2.2.1 Functional nouns: Löbner (1985)

A point I have not mentioned yet is that the noun complex that the determiner selects can itself have internal structure, as the following examples illustrate.

(16)a the old man
(16)b the cat under the chair
(16)c the father of Charles II

Nominals such as (16)a and (16)b are usually composed intersectively, i.e. it is assumed that each of the constituents denotes a property, and that the whole conjunct denotes the property resulting from their intersection. *Old man* then denotes the property of "being a man and being old", and *the old man* is equivalent to "the unique individual that is both a man and old". Likewise for (16)b: the complex property is "being a cat and being under the chair", and the definite description is "the unique individual that is both a cat and under the chair". Because they sort things into those that have the property in question and those that do not, nouns like *man*, *cat* or *table* are called "sortal nouns".[16] Modifying such nouns apparently has no effect on the functioning of the prefixed definite article. From here one might be led into thinking that the bare nominal *father of Charles II* also denotes a complex sort built from the common noun *father*, namely *being the father of Charles II*, and that the definite article serves the same purpose as in (16)a / (16)b, i.e. that of asserting the unique instantiation of a set (on Russell's terms), or that of extracting the unique member of that set (along the lines of the theory sketched in 2.2.1). The expression *the father of Charles II* would then receive the following formalization, familiar from above:

(16)c' [[*the father of Charles II*]] = ι (λx. father_of_Charles_II(x))

That (16)c' is fatally flawed is the starting point of the theory expounded in Löbner (1985). To appreciate what is wrong with (16)c', note that "being the father of Charles II" is unlike any other predicate dealt with above, such as in *the table*, *the old man* or

[16] While some linguists / philosophers reserve the term "sortal" for a subclass of count nouns, I include mass nouns like *sand* or *furniture* in the class of sortals.

the cat under the chair: While the latter are compatible with any kind of determiner (cf. *a table*, *every old man*, *between three and five cats under the chair*, the former is not (cf. *#a father of Charles II*, *#every father of Charles II*, *#between three and five fathers of Charles II*). In fact, "being the father of Charles II" is solely compatible with the definite article. This would be unexplainable if it were a property-denoting predicate like the others. The same restriction goes for many definite descriptions with two nominals connected through *of*: *the back of my car*, *the price of that mug*, *the king of France* all admit no other determiner but the definite article. According to Löbner, this is evidence that these expressions simply cannot be subjected to an analysis according to which the definite article operates on a sortal predicate (as a quantifier or term functor) and returns a unique individual or a singleton set. The fact that nouns like *father* or *king* allow only the definite article must have something to do with the meaning of the nouns themselves. On Löbner's view, those nouns do not denote classes of objects sharing the same property, but rather establish a mapping between objects. For instance, *king* denotes a function that maps one individual (a country) to another individual (the person that is king of that country). Likewise, *father* denotes a function that maps one individual (a person) to another individual (his or her father), and so on for other functional expressions, like *back*, *price*, *age*, *owner*, etc. A function is defined mathematically as a procedure that yields an unambiguous output for any element in its domain of definition, and this provides us with an explanation as to why only the definite article is allowed with functional noun phrases: Any other determinative[17] presupposes that its restrictor set has multiple instances, which is at odds with the definition of a function.

From now on I will call definite descriptions such as *the father of Charles II* or *the price of a cup of tea* "functional descriptions". The canonical word order in functional descriptions of English mirrors their semantic structure: the head noun (e.g. *king*) denotes the function, and the noun introduced by the preposition *of* denotes that function's argument. I will assume that the function denoted by the head noun is a Skolem function, i.e. of type <e,e> (mapping individuals onto individuals), and call the argument of that function its "internal referent", and the output "external referent" or "referential argument".

In some functional descriptions, the internal referent remains implicit: Thus given an appropriate context, *the king* or *the owner* are perfectly natural descriptions, as can be seen in the following examples:

(17) Jordan is a monarchy. *The king* is quite popular.

(18) A purse was found in the lobby. *The owner* is yet unknown.

[17] The term "determinative" is supposed to subsume every functional element that can take a noun as its complement (definite and indefinite determiners as well as cardinal and quantificational items).

Obviously, these descriptions take their argument from the preceding context, so that e.g. *the king* in (17) denotes not any old king, but the king of Jordan, and, *the owner* in (18) denotes the owner of the purse found in the lobby. We will come back to functional descriptions with implicit arguments at several points in later chapters.

Another interesting characteristic of functional descriptions is that only some of them can be pluralized. Thus, *the backs of my car* is impossible, *the prices of a cup of tea* is at least strange, but *the kings of France* can be fully felicitous and grammatical, if the historical dimension is taken into account: France had many kings during its monarchical era, and abstraction over particular periods in time allows us to pluralize functional noun phrases that include a temporal co-argument, like *king*. The same is not possible with functional nouns that do not have a temporal co-argument, like *back*. If the head noun denotes a function assigning a plurality of objects to a single argument, pluralization is unproblematic, as in: *the wheels of my car*, *the eyes of the lion*. And if the argument is in the plural, the functional noun will quite naturally also appear pluralized: *the kings of France and Spain*, *the owners of those cars*, although this is not always the case: *the name of three persons* is as good as *the names of three persons*, even when each of the three persons has a different name.

Given that the lexical meaning of functional nouns implies that the referent is unambiguous (relative to a fixed contextual parameter), there is no need for a compositional procedure creating uniqueness, i.e. no need to apply *iota*. From these considerations, it follows that we can assume the lexical entry for function-denoting nouns to look like the following, with the domains of denotation made explicit in type-logical terms for clarity:

(19) general form for functional noun meanings:
$\lambda y \in D_{<e>}. f_n(y)$

example: composition of *the king of France*:

$\lambda y \in D_{<e>}. f_{king}(y)$
functional application: France $\in D_{<e>}$ $\rightarrow$
f_{king}(France)

$x = f_{king}$(France) iff x is king of France

I write $f_{king}(y)$ instead of the typographically simpler *king(y)* in order to distinguish functional predicates from sortal predicates more clearly.

Now, given that the term "uniqueness" usually implies that there is a set / property with respect to which an individual is distinguished, we cannot use it when we want to characterize the external referents of definite descriptions based on functional nouns. I

will instead use the term "unambiguity"[18]. It is also suitable to characterise the referent of descriptions based on the maximality choice function (*iota* / *sigma*): Maximality unambiguously sorts out a single individual out of a set. Consequently, "unambiguity" instead of "uniqueness" will be used as the general term characterizing the meaning of definite descriptions from here on. I will continue to talk of "uniqueness" when other researchers' theories are being characterized, or when the specific kind of unambiguity that results from the application of *iota* is being considered.

In English, the preposition *of* linking the two nominals indicates the functional structure of a noun phrase. In some cases, however, the internal argument receives genitive case and is placed in front of the functional noun, ousting the article:

(20)a *John's* nose
(20)b *my* mother
(20)c *that car's* engine

Such constructions are usually called "possessives" or "possessive descriptions" (cf. Barker 1995). I will assume that possessives have the same underlying semantics as the corresponding *of*-construction (at least insofar as the matters discussed in this study are concerned), and as a rule I will paraphrase possessive constructions with their prepositional equivalents (even if the result is hardly grammatical in English) because the latter represent the order of semantic composition more transparently: the functional term precedes its argument. Moreover, not every VO-language can make use of possessor preposing in the same way English can. In French, for instance, only pronouns are preposed, and in Haitian Creole, possessor preposing is not allowed at all.

The role of functional nouns in the formation of definite descriptions has been perceived differently by different researchers. Russell, for one, apparently did not recognize functionality in nouns as a semantic phenomenon that differs in interesting ways from ordinary set maximization, as the following quote indicates:

> "Thus when we say '*y* was *the* father of Charles II' we not only assert that *x* had a certain relation to Charles II, but also that nothing else had this relation. The relation in question, without the assumption of uniqueness, and without any denoting phrases, is expressed by '*x* begat Charles II' To get an equivalent of '*x* was the father of Charles II', we must add, 'If *y* is other than *x*, *y* did not beget Charles II', or, what is equivalent, 'If *y* begat Charles II, *y* is identical with *x*.' Hence '*x* is the father of Charles II' becomes '*x* begat Charles II; and 'if *y* begat Charles II, *y* is identical with *x*' is always true of *y*.'" (Russell [1905] 1998:37)

What Russell does is paraphrase the functional noun *father* using the transitive verb *beget* and then state that the definite article is there to express that the agent-role of this

[18] In German, I would use the term *Eindeutigkeit*. Unfortunately, there is no exact English counterpart for it.

relation is instantiated by only one individual. So, Russell does acknowledge a difference between nouns for sorts and nouns for relations, but this difference does not have any serious impact on how he derives uniqueness: The article signals unique set membership in the case of sortal nouns, and otherwise unique relationality. In contrast to this analysis, I treat unambiguity as part of the meaning of the head noun *father*, so that the assumption that the article functions in the same way here as it does with sortal nouns becomes untenable.

At this point, it is once again fruitful to compare Russell's analysis with Frege's. Frege did not advance a full-fledged theory of the definite article, but here is an interesting passage in his "Function and Concept" where he discusses the structure given in (21):

(21) *the capital of the German Empire*

> This obviously takes the place of a proper name, and stands for an object. If we now split it up into the parts
>
> 'the capital of'
>
> and 'the German Empire', where I count the [German] genitive form as going with the first part, then this part is unsaturated, whereas the other is complete in itself. So in accordance with what I said before, I call
>
> 'the capital of x'
>
> the expression of a function. I we take the German Empire as the argument, we get Berlin as the value of the function." (Beaney ed. 1997:140)

> ("Dieser [Ausdruck] vertritt offenbar einen Eigennamen und bedeutet einen Gegenstand. Zerlegen wir ihn nun in die Teile
>
> 'die Hauptstadt des'
>
> und 'deutsches Reich', wobei ich die Form des Genitivs zum ersten Teile rechne, so ist dieser ungesättigt, während der andere in sich abgeschlossen ist. Ich nenne also dem Früheren gemäß
>
> 'die Hauptstadt des x'
>
> Ausdruck einer Funktion. Nehmen wir als ihr Argument das deutsche Reich, so erhalten wir als Funtionswert Berlin." (Frege [1891] 1994:29)

What is crucial here is that Frege does not analyse (21) in a way that would give the initial definite article an autonomous status. Rather, *the capital of* is presented as a single constituent (that Frege even assigns the definit article that belongs to *the German Empire* to this constituent has different reasons that do not concern us here). This is all the more surprising given Frege's earlier quoted analysis of *the negative square root of four*, where he suggested that "out of a concept-expression a compound proper name is

formed with the help of the definite article in the singular". Frege's analysis of *the capital of the German Empire* mentions only two nominal constituents and nothing more. What could have motivated this alternative proposal? – Here is my speculation: It could have been his insight that *capital* is, in Frege's own words, "the expression of a function". A function is defined as a special kind of (possibly partial) relation which provides a *single* value for any given argument. This being so, Frege might have reasoned that the definite article cannot be involved in the generation of unambiguity in the first place, since the functional nature of the concept *capital* alone will guarantee unambiguity. It is part of the meaning of the noun *capital* that whatever argument from its domain it is given (the German Empire, England, the United Kingdom, …), it will assign exactly one value to this argument as its output. From Frege's notation of *the capital of* as a single unanalysed constituent we may conclude that he did not assign a semantic role to the definite article in this phrase, i.e. that he saw it as redundant. From this angle, Russell's analysis of *the father of Charles II* appears flawed: Russell assumed that first we have a relation, which can be expressed by the verbal predicate *beget*, and then we apply the article to it, thereby imposing unambiguity on this relation. But this is a distortion of the actual meaning of the word *father*: The information that there is no other individual that begat Charles II (the uniqueness clause) is part of what *father* means, not an effect of the article operating on a possibly multi-valued *beget*-relation. Similar to *capital*, mastering the word *father* implies grasping that there can only be one such individual for any given person.

From a technical standpoint, one can still argue that it is possible to cling to a unified analysis of definite descriptions if functional nouns are taken to denote inherently singleton sets, and the definite article to extract the one member of those sets. The article would then always translate as *iota*, whereas it must be treated as semantically superfluous with functional descriptions under Löbner's account. What works against this suggestion is the problematic concept of an inherently singleton set. Jespersen (1943:482) rightly points out that "human thought may assume as many members as it likes of any class it may feel inclined to set up." And on the empirical side, it is well known that semantically redundant definite articles are not at all uncommon, as shown by languages prefixing the article to proper names:

(22)a der Peter — DIALECTAL GERMAN
DEF Peter

(22)b ho Socrates — GREEK
DEF Socrates

Although proper names do denote unambiguously, the article does not play the role of maximization in this case, either: Names themselves are referential, inherently definite items (translated as individual constants) and not predicates. This shows that it is not even desirable to treat every definite article as contributing *iota*. It is well-known that definite determiners tend to spread, and in English this spread has reached a domain in

which the determiner is semantically speaking superfluous. In German and Greek the process has affected not only functional descriptions but also proper names.

The picture we have arrived at now looks like this: English has one definite article form, which always signals unambiguity. But the word "signal" has two different meanings depending on what kind of predicate the article combines with: If it determines a sortal noun such as *table*, i.e. a noun whose job it is to classify objects as belonging to a certain class rather than as standing in a certain relation to another one, the article itself is responsible for the unambiguity effect: It selects a single member out of a possibly multi-valued set of elements answering the descriptive content. If the definite article determines a phrase with a functional head noun, such as *capital* or *father*, the article is, strictly speaking, redundant, since the unambiguity that it signals is entailed by the meaning of the head noun.[19] When the definite article is present but redundant in a noun phrase, we can either say that it will receive no semantic interpretation at all – like a genuine expletive –, or, alternatively, that it will be interpreted as the identity function on the noun phrase meaning.[20]

In-between sortal and functional nouns, we can position nouns that denote proper relations, i.e. relations that do not establish one-to-one assignments. For these, the analysis Russell questionably proposed for *the father of Charles II* seems fair enough: The head noun specifies a relation, and the definite article makes a substantial contribution in signalling that the relation in question has only one element in its range. Examples of genuine relational nouns would be *uncle* instead of *father*, or *minister* instead of *king*. Relational descriptions[21] are intermediary between sortal and functional descriptions in that on the one hand, their external referent is determined with the help of another referent, like the referents of functional descriptions, but on the other hand, their denotation is not inherently unambiguous, like the referents of sortal descriptions. Consequently, we expect that one cannot simply make a relational description definite without first introducing the referent. An indefinite is the more suitable form:

(23)a #When Peter tried to climb the tree, *the branch* broke off.

(23)b When Peter tried to climb the tree, *a branch* broke off.

[19] Terminological remark: I will henceforth call nouns such as *table* or *cat* "sortal nouns", their denotation "sortal concepts" and definite descriptions such as *the table* or *the cat* "sortal descriptions" (sortal descriptions being a proper subset of what Neale (1990) calls "incomplete descriptions", cf. below, section 3.5.4). I will call nouns such as *capital* or *father* "functional nouns", their denotation "functional concepts", and definite descriptions such as *the capital of the German Empire* or *the father of Charles II* "functional descriptions".

[20] Thanks to Brenda Laca for pointing this idea out to me.

[21] I use the term "relational description" elliptically for "definite relational description", so as to exclude noun phrases like *a son of Charles II*.

The definite *the branch* would only be possible in (23)a if a particular branch of the tree had been made previously prominent in some way (e.g. such as the branch that Peter is trying to tie a swing to). We cannot interpret *the branch* as picking out any one of the many branches of the tree due to the familiar unambiguity implication that comes with the definite article. Therefore an *in*definite description, like in (23)b, is more appropriate in the context at hand.

I propose that relational nouns should receive the following basic representation:

(24) general form for relational noun meanings:
$\lambda y \in D_{<e>}.\lambda x \in D_{<e>}.\ R_n(x, y)$

example: composition of *the sister of Mary* (with *Mary* = m)

1. basic relational predicate: $\lambda y.\ \lambda x.\ R_{sister}(x, y)$
2. functional application: $m \in D_{<e>} \rightarrow \lambda x.\ R_{sister}(x, m)$
3. maximization (*iota*): $\rightarrow \iota(\lambda x.\ R_{sister}(x, m)) = \iota x.\ R_{sister}(x, m)$
   'the unique individual x such that x stands in the sister-relation to Mary'

This analysis implies that the definite article heading relational descriptions regularly introduces *iota*, just as it does with sortal descriptions.

Interestingly, there are cases in which it looks as if the fact that the relation in question is potentially many-valued is of no importance, and, as a result, a relational description can be used as if it were functional. It seems that this is particularly frequent in possessive constructions:

(25) A man came in. *His daughter* was with him. ((4) in Barker 2000:213)

Barker, from whom this example is taken, asserts that *his daughter* presupposes not only existence, but also unambiguity. So it appears as if the hearer is prepared to accommodate the fact that the man in question has only one daughter, although this is neither part of the meaning of *daughter* nor has it been asserted anywhere in the discourse. But sometimes even unambiguity implications can be flouted with relational descriptions:

(26) Towards evening we came to *the bank of a river*. (Christophersen 1939:140)

In (26), the relational description *the bank of a river* felicitously introduces a new referent, although it is immediately clear that the referent cannot be unambiguous. Corblin (1987:175) notes that such uses of definites are fairly restricted: They are only possible with relations that have a limited and fixed range (thus *#I tore out the page of a book*), they must be in the singular – plural forms always trigger unambiguity implications –, and they work best if the internal argument is an indefinite. If these

conditions do not hold, relational descriptions behave like sortal descriptions, i.e. they must be indefinitely marked when introducing a new referent, and can only be definite if they pick up a familiar referent. Corblin proposes that in some cases, definiteness marking is appropriate if the description is "sufficiently identifying" for the purposes of the discourse. For instance, in (26) the speaker probably attaches no importance to the question of *which* side of the river it was that they came to, and the hearer, recognizing this, plays along. Of course, there is still the question as to why the definite form *the bank of a river* is chosen instead of the indefinite *a bank of a river* if the speaker considers the identity of the referent to be unimportant, anyway. Löbner (1985:304ff.) proposes that it is feasible to restrict the situation described to referents that are important, screening off as it were irrelevant constituents. This explanation works better for (26) than it does for (23). In what follows, I will leave proper relations out of the picture for the most part and concentrate on the sortal–functional distinction. These two modes of reference code the two types of definiteness we are about to establish in their purest variety.

2.2.2.2 Functional nouns with quantificational arguments

Below I will mostly be dealing with functional nominals with internal arguments in the shape of definites, which I take to be uniformly denoting in type *e* (cf. Elbourne 2005). However, functional descriptions can also appear with quantificational internal arguments, witness the following:

(27) There was *the outline of a human face* hidden in this puzzle.
((15c) in Woisetschlaeger 1983:142)

(28) *The mayor of every major city* was bribed.

In (27), the internal argument of the functional nominal *the outline* is an indefinite description (*a human face*); in (28), the internal argument of the functional *the mayor* is a universal quantifier (*every city*). Let us assume that indefinite descriptions such as *a human face* can be appropriately analysed as existential quantifiers.[22] This brings the two examples above into line while keeping them distinct from the cases where the internal argument is a definite. The problem with cases such as (27) and (28) is then twofold: Firstly, they seem to contradict the claim that functional nouns, of which *outline* and *mayor* are examples, are generally of type <e,e>. Secondly, they seem to contradict the claim that functional descriptions denote unambiguously: Neither *the outline of a human face* nor *the mayor of every major city* appear to pick out an unambiguous individual at all. I will now deal with these two problems in turn.

[22] Another option would be to interpret indefinite descriptions as individual-denoting expressions via choice functions, cf. e.g. von Heusinger (1997). In that case, indefinites in functional descriptions would cause no further problems for the present approach as far as type-theoretic considerations are concerned.

Concerning the first problem, if quantificational noun phrases are of the standard type <<e,t>,t>, as is commonly assumed, the nominals of which they are the arguments cannot be of type <e,e>. But this sort of mismatch is familiar from the verbal domain. Transitive verbs like e.g. *offend* are assumed to be of the basic type <e,<e,t>>, but they too can be combined with a quantificational direct object (of type <<e,t>,t>). This is illustrated by the following example, with a rough structural representation given right below.

(29) John offended *every linguist.* ((1b) in Heim & Kratzer 1998:178)

$[_S\ [_{NP}$ John $[_{VP}$ offended $[_{NP}$ every linguist$]]]]$
<e> <e,<e,t>> <<e,t>,t>

There are two strategies to deal with this mismatch: type adjustment, or quantifier raising. Both of these are discussed in Heim & Kratzer (1998: chapter 7). I will sketch the second strategy here because I consider it most promising as far as functional nominals are concerned.

Quantifier raising takes place at the level of LF (Logical Form), which is the basis of interpretation. "Raising" means that a quantifier it is moved out of its surface structure position and adjoined to the topmost sentential node (usually labelled 'S' in Heim & Kratzer 1998). It is further assumed that this process is general, i.e. it routinely applies to all nominal constituents of type <<e,t>,t>. The position from which the quantifier is raised is occupied by a trace in the shape of an individual variable. This variable is co-indexed with the moved quantificational constituent so that the quantifier comes to bind it. The resulting structure is displayed in (29)':

(29)' $[_S\ [_{NP}$ every linguist x:$]\ [_S\ [_{NP}$ John $[_{VP}$ offended $[_{NP}$ x$]]]]]$

Crucially, once raising is completed, transitive verbs like *offend* can receive their standard <e,<e,t>> interpretation since variables are individual-denoting, i.e. of type *e*. The type mismatch has been repaired. Moreover, in its new sentence-adjoined position the quantifier *every linguist* too has an appropriate argument of type <e,t>: the set of individuals such that John offended him / her.

I assume that the same raising strategy can be pursued where functional nouns with quantificational arguments are concerned. In (27), the quantifier *a human face* is caught inside the functional description at the surface. Since it is of type <e,<e,t>>, it is affected by quantifier raising. The same goes for *every city* in (28). The result would be something like the following LF-structures, with the predicate logical renditions given below:

(27)' [A human face x: [the outline of x [was hidden in this puzzle.]]]

$\exists x$ [human_face(x) & hidden_in_puzzle($f_{outline}$(x))]

(28)' [Every major city x: [the mayor of x [was bribed.]]]

$\forall x$ [major city (x) → bribed($f_{mayor}(x)$)]

The formulas show that once the quantifiers have vacated their noun phrase-internal position, the functional nouns have individual-denoting expressions (variables) as their internal arguments, as desired.[23] Thanks to the raising analysis we can thus stick with the assumption that functional nominals are uniformly of type <e,e>.

The second problem with the above examples is that they seem to threaten the assumption, central for much of what will be argued below, that functional descriptions denote unambiguously. Now, the formalizations just given can help us to get clear on this problem as well. The functionality of the head nouns implies that there is an unambiguous output for any given input. The input of the functions in (27) and (28) is determined to vary: Quantificational statements are evaluated with the help of a variable assignment function which consecutively assigns every individual in the domain to the variable *x*. The existential statement in (27) will come out true if there is at least one assignment such that *x* is assigned an individual − a human face − such that its outline was visible in the puzzle. The universal statement in (28) will come out true if for every assignment of individuals in the domain of major cities to *x*, it is true that the mayor of this individual was bribed. What is crucial here is that unambiguity implications must be evaluated *per assignments of individuals to variables*. There is a one-to-one mapping from a human face (any human face) to its outline, just as there is a one-to-one mapping from a major city (any major city) to its mayor. This justifies the definiteness of the descriptions *the outline of a human face* and *the mayor of every major city* as a whole. In the functional theory, unlike in the familiarity theory, definiteness does not have to be evaluated globally, i.e. with respect to a static set of discourse individuals already introduced. Instead, it is a matter of a link between a functional element and its immediate argument. As long as this link is one-to-one, definiteness marking is expected. It is a clear advantage of Löbner's theory of definiteness over its rivals that it can easily explain the appearance of the definite article in examples such as (27) and (28).

− I indicated above that I consider the sortal-functional distinction to be anchored in the lexicon, so that "functionality" is a genuinely semantic category. In contrast to this, Löbner (1985) regards functionality as a concept that is primarily pertinent to the level of language use, i.e. pragmatics. Since the sortal-functional contrast will be of great significance in the remainder of this study, it is worth settling the question of where

[23] I deliberately leave it open where exactly the landing site of the raised quantifier would have to be. Heim & Kratzer (1998:232-234) includes a discussion of the question whether quantifiers raised out of noun phrase-internal positions must adjoin to that very noun phrase, or to the clausal constituent. One example they give is the following, where it is questionable where the quantifier *every city* must be adjoined to:

(i) Two politicians spy on someone from *every city*. ((8) in Heim & Kratzer 1998:234)

exactly it applies first. In the next section, I will critically examine Löbner's stance on the nature of functionality.

2.2.2.3 Does functionality *always* reside in the noun?

Before he develops his functional theory of definiteness, Löbner (1985) undertakes a semantic classification of nominal expression types. In opposition to the unitary approach to noun phrases adopted by the Montagovian school of semantics, neither definites nor indefinites are treated as quantifiers. Whereas indefinites are analysed as predicates, definites are considered to be individual terms. Furthermore, from the observation that the definite article obligatorily accompanies functional head nouns in descriptions like *the father of Charles*, Löbner generalizes to *all* definite descriptions[24]: A definite description is defined as a description whose head noun is used in the functional mode – *including* descriptions built from sortal nouns like *table*. The underlying idea is that sortal descriptions like *the table* have an internal argument, just like e.g. *the father* (*of Charles II*), only it is hardly ever made explicit because it is necessarily given in the preceding context, and thus does not need to be articulated. This way, a uniform analysis for definite descriptions appears feasible again, because "the definite article *always* signals that the noun is to be taken as a functional concept" (Löbner 1985:279). Since it is always the noun that denotes a functional concept, the definite article can never play the role that we assigned to it in section 2.2.1, i.e. it can never be an operator of maximization according to Löbner. This difference must be borne in mind because Löbner's theory has become known as "the functional theory of definiteness", but it is more narrowly construed than what I am calling "a functional theory of definite descriptions" (my terminology is in line with Chierchia's (1995), though). On methodological grounds, Löbner's theory would be superior to the one proffered here so far, given that Löbner's is the more economical account, in which the locus of the function is always the noun, and the difference is only in the way the internal argument is given: namely through overt linguistic material in the case of the so-called "semantic definites", and through the context in the case of the so-called "pragmatic definites". I will show next that Löbner actually fails to account for anaphoric and deictic definite descriptions, and that the dichotomy between sortal and functional definite descriptions should be upheld as introduced.

Unfortunately, there is only one passage in Löbner (1985) in which the author explains how functionality is supposed to work in the realm of directly anaphoric descriptions (in the 2003 sequel there is none at all), even though Löbner stresses several times that direct anaphora is a special case of functionality. The only example with a direct anaphor is the following:

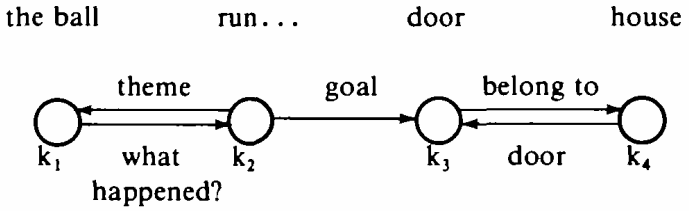
[24] In fact, Löbner generalizes from there to all sorts of definite expressions, including proper names and pronouns.

(30) The ball ran right forward to the door of *a house* that stood there, and the ball went into *the house* and she saw it no more. (Löbner 1985:317)

Our interest is in the interpretation of the anaphoric sortal description *the house* (underlined). Löbner's explanation goes like this: *house* is supposed to be interpreted as a functional concept due to the definite determiner. Since we have a functional concept, we need an argument for it. Typically for the anaphoric use, this argument remains unarticulated but can easily be reconstructed from the preceding context. In this case, the argument for *the house* is *the door* (for every door there is only one house for which it is the door). *The door* is itself anchored to an event of *the ball* rolling to it, that is, it was introduced as the goal-space of a moving event with the ball as its theme. Chaining the two functional dependencies just revealed together, we get the following as an explicit rendering of *the house*, in Löbner's own words*: the house the door of which the ball ran right forward to* (ibid:318). But now the last link in the chain, namely *the ball*, is again a definite description, and would again have to be connected to some other unambiguous internal argument, and so on, until an absolute point of reference is found to which all other functional links can be ultimately anchored. In Löbner (2003), the necessary mother node is given through a situation.

Although he criticizes both DRT and FCS, Löbner also works with some sort of discourse representation theory, in which token concepts are represented by indexed nodes and in which dependencies are rendered as arrows between those nodes. The representation of the first sentence in (30) looks thus:

(31)



((12) in Löbner 1985:318)

We see that not only concepts for individuals, like e.g. that for *the ball* (k_1), but also concepts for events introduce a node (k_2). Nodes in Löbner's graphs are comparable to the "discourse referents" of DRT: They must be constructed somehow through an algorithm from the linguistic input. This raises the question of how precisely the anaphoric description *the house* comes to refer to k_4. I quote Löbner:

> "Now, the hearer or reader of [(30)] will not introduce a new node for the NP *the house*, because the definite article instructs him/her in this case, also, to use the noun as a functional concept. This functional concept is provided by the particular network built up so far. Explicitly, it would be 'the house of the door of which the ball ran right forward to'. Apparently, it is not necessary to repeat all this […]. It is

> sufficient to employ some distinctive sortal information in order to refer to the node in question. By indicating by means of the definite article that the sortal noun is to be used as a functional concept, the speaker refers the hearer to a situation which is constrained to supply the necessary additional relational information."

To anticipate my conclusion, I do not think that this explanation answers the question of how the utterance token of *the house* directs the hearer to k_4. First of all, it is misleading to state that "the hearer will not introduce a new node for the NP, because the definite article instructs him to use the noun as a functional concept": There is no causal relation between being a functional concept and not introducing a new discourse referent. Quite to the contrary, Löbner himself makes good use of the fact that functional concepts are a means to introduce *new* referents (just take the node k_3 for *the door* in (30)). In fact, this is one of his major arguments against the familiarity theory of definiteness. So the fact that *the house* does not introduce a new node / discourse referent cannot be deduced from the alleged functional nature of the expression. What Löbner must say instead is that the definite article *in conjunction with a sortal noun* prevents the hearer from introducing a new node. (The last sentence of the above quote can be read in this way.) We might say that this particular combination only allows functional concepts whose output is already given in the context. Even if we accept this as a stipulation, it still falls short of solving the problem of how the hearer knows that *the house* refers to k_4 and not any other given node. The functionality that Löbner makes explicit in *the house the door of which the ball ran right forward to* has nothing to do directly with this problem; rather, it illustrates how k_4 is related to other referents in the described situation, and why k_4 has "determined reference" in the sense that it is unambiguously linked to other discourse elements. This might be important information but it is irrelevant to the critical mapping of speech tokens to discourse referents. Node k_4 exists thanks to the indefinite noun phrase *a house* in the first sentence of the example, not thanks to the definite *the house* in the second one. The paraphrase *the house the door of which the ball ran right forward to* presupposes that the mapping from the noun phrase token *the house* to k_4 has already taken place, but this is not something to be presupposed, but, rather, something to be explained in a semantic theory. Stating that *the house* must receive a functional reading does nothing to account for this mapping. It rather seems that in order to be able to explain why *the house* refers to node k_4, it is necessary to introduce a principle stating that if a definite article appears in combination with a sortal noun, the resulting noun phrase must be interpreted with respect to a node already set up in the discourse (which furthermore corresponds to the descriptive content). This is pure familiarity theory, spelled out in DRT by means of an equative condition and in FCS by means of the "Novelty/Familiarity Condition". A technical alternative (the one I will avail myself of) is to say that the definite article combined with a sortal noun produces a description referring to the maximality of referents satisfying the predicative content in the described situation. Löbner accepts neither of these principles because he wants to implement his theory as a radical alternative to both familiarity and uniqueness. But plain nominal functionality is insufficient to account for direct anaphora.

Löbner's approach fares no better when it comes to deictic definite descriptions (I call an expression "deictic" if it can only be interpreted with recourse to features of the situation in which it is produced, such as the identity of speaker and hearer, the time and location of the utterance, or directing gestures). Again, there is only one relevant example in Löbner's writings:

(32) Pass me the cornflakes, please. (Löbner 1985:319)

Löbner comments:

> "Mary is aware of the cornflakes on her plate, in John's bowl, in the pack on the table and maybe of a spare pack on a shelf nearby. But she will know which ones she has to pass, because several constraints exclude all but the cornflakes in the pack on the table. John instructed her to use the noun *cornflakes* as functional concept, due to which the cornflakes he wanted figure in a unique role within a effectively constructible abstract situation." (Löbner 1985:319)

Once more the question is how the utterance token of *the cornflakes* comes to refer to the cornflakes on the table. And here Löbner seems to exploit the salience theory of definiteness. The "constraints" excluding other possible (boxes of) cornflakes are not elaborated, but the depiction of the situation suggests that they have to do with the fact that other descriptively possible referents are simply less salient than the cornflakes on the table. I can accept this as an explanation, but evidently it has nothing at all to do with functionality in the way Löbner construes it. The last sentence of the quote then asserts that the cornflakes figure in a "unique role"; this wording is surprising for someone who defies uniqueness as decidedly as Löbner. It is nevertheless perfectly appropriate to analyse the definite description in question, only Löbner cannot admit this without contradicting himself. The reason why Löbner appeals to uniqueness and salience (or uniqueness through salience) in spite of himself is presumably that functionality becomes an arbitrary notion when applied to accidental participants in episodic situations. There is nothing to motivate or justify the idea that a cornflakes box is a function of two people sitting together at a table. It could be argued that a typical breakfast table (in some cultures) includes a single box of cornflakes, and this background implication could make the functional approach plausible for (32). But then again, one can utter (32) in any situation whatsoever as long as there is a single box of cornflakes visible to the addressee. One can utter (32) sitting on a sand dune in the Sahara desert, if there happens to be a box of cornflakes lying around. There is no need for sand dunes in the Sahara to be typically equipped with such a thing. To say that (32) is understood correctly on a lonely sand dune because the addressee construes a functional link from the situation to the cornflakes is merely a trick to save the uniformity of the theory, but it does not explain anything about the interpretation, nor does it accord with our intuitive understanding of what a functional expression is. *father* is functional, because it assigns persons to other persons in a specific, lexically-determined way; no such procedure is ever apparent for *cornflakes*. The cornflakes *happen* to be describable as functionally related to the situation in (32) – not because

the description *encodes* functionality, but because the cornflakes are the only relevant / salient / familiar entity so describable in the context. This factual uniqueness is what explains the definiteness, not the functional link, which is *ex post* and parasitic on uniqueness. Every object that happens to be the only one of its kind in some situation can be described as a function of that situation, but this does not show that an expression denoting such an object is actually interpreted functionally. To take a comparable case, proper names can be analysed as generalized quantifiers because we have a logic that affords the necessary type-lifting operation. For all that, many linguists and philosophers would insist that the *actual* semantic nature of proper names is non-quantificational, and that, at the end of the day, the quantificational treatment of names remains supervenient on the referential one. Likewise, I think that the technical possibility of analysing deictic and anaphoric definite descriptions in terms of nominal functions does not tell us much about how these really work.

The discussion of Löbner (1985) in connection with the preceding section suggest that there remains a fundamental distinction within the category of definite descriptions: On the one hand, there are cases where the article signals extraction of a distinctive set member (denoted by the noun), and on the other hand, there are cases where the noun meaning itself maps an individual to another one. Russell tries to reduce all descriptions to the first type, Löbner to the second. We have seen that neither approach is felicitous, and that the demarcation should be maintained.

Having said that, I do not want to deny that there is a large area of nouns that can be used in both ways. Take the noun *waiter*. *waiter* is often functionally related to an individual event of restaurant-going, but *waiter* is also a sort of occupation, as opposed to *cook*, *manager*, etc. (cf. "What does he do for a living?" – "He is *a waiter*."). Löbner (1995:213) makes a similar point with the noun *table*. I take it that the functional / sortal contrast is lexically biased but can be overridden on the sentential level with particular effects, as the following two examples are supposed to show[25]:

[25] The situation is somewhat comparable to what one observes regarding the mass / count distinction. Some nouns, like *pencil*, are clearly count, whereas others, like *mud*, are clearly mass. And here also we have to add the qualification that a number of nouns, like *cake*, can be used in both ways, and moreover that in special circumstances the syntax can turn mass nouns into count nouns and vice-versa. Examples:

(i) I offered them *three wines*.
(ii) The lion gets nervous when he smells *zebra*.

Just how these cases work is beyond our concern, but it can be said that they are judged as "special" or "marked" in some way, even though they are not ungrammatical (in (i), the hearer must either switch from the ordinary level of denotation to the so-called "taxonomic" level, so that *three wines* means 'three kinds of wine', or he must understand that the speaker had in mind *glasses* of wine; in (ii) the animal *zebra* is apprehended from the point of view of the lion, for which the zebra kind is first and foremost a source of food mass).

(33) She is *a good mother*. (Löbner 1985:297)

(34) Whose turn is it to do the dishes?
– Well, Saturday is usually *John's day*. ((9b) in Barker 2000:216)

In (33), the identity of the particular son(s) or daughter(s) is irrelevant. For the sentence to be judged true or false, the concept *mother* must be taken as sortal: Since no son / daughter is mentioned at all, (33) can only be intended as a comment on the referent's abilities in fulfilling the stereotypical tasks involved in motherhood. The presence of the adjective *good* is crucial for this interpretation: It enforces a set-denoting (i.e. sortal) construction for *mother*. Only then can the subset-creating modifier *good* apply.

The noun phrase *John's day* in (34) constitutes what Barker (2000) calls an "extrinsic possessive" (recall: we are assuming that *John's day* is equivalent semantically to *the day of John*). Extrinsic possessives are distinguished from "lexical possessives", which are built from functional (or relational) head nouns. Thus, *John's day* differs from the lexical possessive *John's birthday*.

(35) *John's birthday* is tomorrow. ((9a) in Barker 2000:216)

(34) shows that sortal nouns like *day* can be put to functional use, too, but only if the relevant function is specified somewhere outside the noun phrase (whence "extrinsic"). In (34), the preceding discourse makes it clear that the function in question is the one that maps persons to weekdays of dish-washing. If no such "extrinsic" specification is given, *John's day* remains incomplete in ways in which *John's birthday* isn't. Nevertheless, we cannot conclude that because descriptions such as *John's day* cannot be interpreted as intrinsic functions, they must therefore refer anaphorically. In (34) there is strictly speaking no previous referent for the description *John's day* to pick up; instead, the initial sentence specifies the range of the function which can apply to any given individual in a contextual set. This is not the same as anaphora because the external referent of *John's day* itself need not be given anywhere in the preceding context, whereas the referent of a truly anaphoric description such as *the house* must.

Barker's "extrinsic possessives" are moreover not to be confused with Löbner's "pragmatic definites", although both terms are used to refer to contextually determined functions. For Barker, the decisive criterion in determining the relational / functional status of a description is its internal structure: Only if there is a dependent genitive around can the noun phrase be functional. The contribution of the context is confined to enriching the meaning of the head noun, so that it becomes clear what kind of mapping it carries out (e.g. an enrichment from *day* to *dish-washing day of the week*). For Löbner, even structurally simple descriptions like *the house* are functional. The function of the context is not to specify a mapping, but to provide a chain of arguments for the supposed underlying function. It is this latter type of pragmatic enrichment that I object to.

(33) and (34) indicate that sortal nouns can neither simply be used as functional nouns nor vice-versa unless there are specific lexical or contextual enrichments that support such a shift. I conclude that we were justified in making sortality part of the default meaning of words such as *table* and functionality part of the default meaning of words such as *father* in section 2.2. And so the corollary that the definite article is sometimes semantically substantial and sometimes semantically redundant is also upheld. I repeat the idea: When combined with a functional noun, the definite article expresses nothing that the head noun does not already express since the referent of a functional description must be unambiguous. When the definite article is combined with a sortal (or properly relational) noun, the definite article has a substantial discriminative value: Since bare sortal nouns have no intrinsic lexical link to unambiguity, the article is the only place in the description where unambiguity can be marked.

In the next chapter, we will tackle the question of how a sortal description like *the table* can be said to denote unambiguously despite the trivial fact that there are many tables in existence. Löbner's solution is to say that every discourse creates a network of local dependencies in which every link is unambiguous, thereby avoiding unrestricted uniqueness. Since I rejected the proposal that such dependencies underlie sortal descriptions, I need another way of confining uniqueness. The basic idea to be worked out below is that uniqueness does not necessarily hold only with respect to the whole wide world but with respect to smaller domains. I will again follow Löbner in calling these smaller domains situations. But, once Löbner's stacked functional dependencies are done away with, it turns out that we need a rather more fine-grained notion of situations to keep up unambiguity as a reasonable analytic category. Chapter 3 contains a proposal how this might be done.

3. Situation semantics and noun phrase interpretation

This chapter lays the theoretical foundations for the treatment of the data discussed in chapters 4 and 5. Basic tenets of situation semantics will be motivated insofar as they are relevant to the study of definite descriptions (sections 3.1 and 3.2). An essential distinction between two sorts of situations, topic and resource, is introduced in section 3.3. In section 3.4 I will briefly discuss the issue of situation variable binding, before re-considering the sortal / functional contrast from a situation-semantic perspective in section 3.5. Section 3.6 gives an intermediate summary concerning the theoretical claims made so far as well as an outlook of things to come. The chapter contains no new arguments in favour of situation semantics or against any of its rivals; the aim is rather to introduce the reader to tools applied later on. For more thorough discussions of the principles and possible benefits of situation theory as a semantic framework, cf. Barwise & Perry (1983), Kratzer (1989, 2007), Barwise (1991), Cooper (1996), Récanati (2004a).

3.1 Worlds and situations

Situation semantics in its modern guise emerged as a response to possible worlds semantics. A constitutive work is Barwise & Perry's "Situations and Attitudes" (1983). Their theory was motivated by the desire to make formal semantics more realistic: When people make utterances, they do not thereby intend to make statements about how the world is. The world consists of a vast heap of facts, not comprehensible in its entirety by the limited human intellect, and accordingly most of what we say is intended not as a comment on this vast heap, but on a smaller domain where the determination of reference is unproblematic and where what is uttered leads to inferences governing our judgements and actions. Therefore, some semanticists have come to think that propositions should not be rendered as functions from worlds, as possible worlds semanticists would have it, but instead from smaller constituents of worlds, called situations. This notion of "situation" should not be confused with that in which situations are likened to events in the sense of "event semantics", as championed by Donald Davidson. The concept of a situation in the sense I will be assuming is totally non-committal with respect to questions of aspect and aktionsart, or other categories concerning the classification of "eventualities". A possible world can be made up of individuals, events, states, processes and any other thing that we might find useful to include in the ontology of natural language, and so can situations. Situation semantics as I understand it is a close relative of possible worlds semantics rather than of event semantics. The one major point of divergence between possible world semantics and the

version of situation semantics expounded here is whether it is ever necessary to allow our language to "cut out" smaller parts of the world or not. If we do think it is (at least sometimes) necessary, we have to explain the rationale by which these smaller parts are cut out. I will try to keep other assumptions about semantics and ontology close to possible worlds semantics.

To exemplify the difference, in possible worlds semantics, propositions are usually conceptualised as characteristic functions of worlds. Using lambda-notation, the meaning of a sentence *p* can be written thus:

(1) $[[p]] = \lambda w.\ p(w)$

The truth of a proposition is normally evaluated with respect to the actual world. So, the utterance of a sentence *p* is true if the actual world, w_0, is among the set of worlds mapped to "truth" by the function *p*.

In situation semantics, a sentence can be described as denoting a characteristic function from situations to truth values:

(2) $[[p]] = \lambda s.\ p(s)$

A concrete utterance of *p* is then evaluated with respect to the situation under discussion. So, an indicative utterance *p* is true if it is the case that p in the situation under discussion.[26] Aside from the difference illustrated in (1) vs. (2), situation semantics is cut from the same truth-conditional cloth as possible worlds semantics: To know the meaning of a sentence is to know what would have to be the case in order for the sentence to be true, i.e., in terms of possible worlds, what any given world would have to look like for it to be true. In situation semantics, one has to know what any given situation under discussion would have to look like for the sentence to be true. Furthermore, to judge the truth of a given utterance, one has to know whether the state of affairs it describes holds of the world under consideration (in possible worlds semantics) or of the situation under consideration (in situation semantics). According to Austin (1961), speakers always implicitly refer to a situation under consideration when they make statements:

[26] In the course of its history, situation semantics has developed terms and notations of its own. For instance, the meaning of an utterance *u* is sometimes written out like this:

(i) $\langle \mathbf{s_u}, T_u \rangle$

Here the first item $\boldsymbol{s}_\mathbf{u}$ stands for the situation "referred to" by *u*, and the second item T_u stands for a type (in the "type/token" sense) of situation; an utterance is then said to refer to a situation token and to imply that this situation is of the type T_u.

> "A statement is said to be true when the historic state of affairs to which it is correlated by the demonstrative conventions (the one to which it 'refers') is of a type [footnote omitted] with which the sentence used in making it is correlated by the descriptive conventions." (Austin 1961:90)

Austin's tenet, dubbed "situational referentialism" by Récanati (2004b), will be adopted in this study, too.

As far as the metaphysical groundwork is concerned, I will follow Kratzer (1989), who, for her turn, draws from the philosopher David Armstrong, and say that a situation is equivalent to a state of affairs. A state of affairs is defined by the individuals (also called particulars) it contains plus the properties and relations they instantiate. A world is defined as a maximal situation, which I will sometimes call "a world situation" to keep the terminology consistent. Situations are usually conceptualised in a coherent spatiotemporal setting.[27] Different situations can be connected via the part-of relation $<_p$. For instance, a situation s_1 with nothing but a horse in it is part of a larger situation s_2 with that horse and a cow in it: $s_1 <_p s_2$. s_1 and s_2 are different because situations are defined by their inventory and s_1 has a different inventory than s_2. But the two situations also share a particular, namely the horse, and can therefore be connected via $<_p$.

Another important concept is that of a "minimal situation". It was introduced by Berman (1987) and applied to a range of problematic examples by Heim (1990). To quote Elbourne (2005:49), "a minimal situation such that *p* is the situation that contains the smallest number of particulars, properties, and relations that will make *p* true." For our purposes, minimality is significant because it ensures that definite reference to an entity introduced earlier is really unambiguous, as it should be. I illustrate with an example:

(3) A boy and a girl are walking down the street. *The boy* is whistling.

We want *the boy* in the second sentence to refer to the boy introduced in the first sentence. For this to work, the unambiguity assumption contained in *the boy* must be satisfied, and so the historic situation referred to in the first sentence must be delimited in a way such that there is really only one boy in it. In this connection, Récanati (2004b:29) argues that what counts in terms of uniqueness implications are situations *as described* by linguistic utterances. The actual situation referred to in (3) may contain more than one boy, but that does not matter as far as the uniqueness implication of the anaphoric *the boy* is concerned precisely because the situation is *described* as containing only a single boy (this is in turn implied by the singular indefinite form *a boy*). It follows that any other boys accidentally walking down the same street at the same time (and perhaps even in the company of the same girl) will do no harm to the unambiguity of reference of *the boy*.

[27] Spatio-temporal coherence is no necessity, however. Kratzer (2007) accepts "scattered situations" as well.

The minimality postulate is usually explicitly represented in logical formalizations which can make the renderings quite lengthy. I will instead assume once and for all that every situation described by a natural language utterance is minimal. Thus we will not have to write out the minimality condition in every single formula.

3.2 Situation parameters in the noun phrase

Since its beginnings, situation semantics has seen technical implementations in various areas of semantics (see Kratzer (2007) for an overview). One of them is the context-dependence of noun phrase meanings. To see how situations help in the interpretation of noun phrases, we first have to abandon the idea that only complete utterances are evaluated with respect to situations, as (2) suggests. In fact, noun phrases must be equipped with their own situation parameters, which can be autonomous with respect to the situation parameter of the verbal predicate. The need for this kind of autonomy was probably first spotted in connection with tense, an important ingredient of situations. Here is an example brought up by Enç (1986:409):

(4) Every fugitive is now in jail.

Imagine that this sentence is uttered by a functionary of the police after a renowned group of gangsters that had collectively escaped from prison has just been caught and imprisoned again. The proposition that (4) expresses must be evaluated with respect to the actual world or situation under discussion. However, any utterance of (4) will come out as uninterpretable on our present account of sentence meaning: For the sentence to be either true or false, the main predicate must be true of every single person of whom the predicate *fugitive* holds. This is just how we construe universal quantifiers in combination with distributive predicates such as *is now in jail*. But when we try to apply the predicate *is now in jail*, we get stuck: Nobody who is a fugitive can, by the meaning of the words, be in jail– at least not *at the same time*. Enç concludes that noun phrases generally need to be endowed with a time parameter of their own to make their interpretation independent of the interpretation of the verbal predicate if necessary. The time-parameter of the noun phrase *every fugitive* prevents (4) from becoming uninterpretable if it is set to a period *before* the present time in which the persons are in jail. The meaning of (4) can then be specified as in (4)F:

(4)F $\forall x\,[\text{fugitive}(x)(t') \rightarrow \text{in\_jail}(x)(t_0)]$

‘Every individual that was a fugitive at time *t’* (*t’* before t_0) is in jail at t_0.’

That noun phrases do not only need a time parameter but also a modal parameter of their own is shown by the ambiguity of the following example from Percus (2000):

(5) If every semanticist owned a villa in Tuscany, what a joy this world would be.

Conditionals are interpreted as restrictions on quantifiers over worlds accessible from ours under some mode (cf. Kratzer 1991:654). The ambiguity of (5) can then be explained in the following manner: (5) either says that for every world *w* accessible from ours, if every person who is a semanticist in *w* were a Tuscan villa owner, *w* would be a joy to live in; or (5) can mean that for every world *w* accessible from ours, if every individual that is a semanticist in *our actual world*, w_0, were a Tuscan villa owner in *w*, *w* would be a joy to live in. The existence of this second reading demonstrates that noun phrases must have a world parameter of their own, which can be set to a contextually-salient value (in the normal course of events, the actual world w_0), thereby escaping a dominating world-variable binder (given through the conditional in the case of (5)). Of course, the example is a bit more involved than the one with the temporal shift: It forces us to consider worlds different from ours and such considerations usually need to be explicated in natural language by describing what those worlds would look like, whereas temporal shifts are carried out more smoothly by tense morphology on the verb. An example more like (4) would be (6):

(6) Sarah told me about this funny dream she had in which the Italian government allotted a villa in Tuscany to all linguists. *Every semanticist* travelled to Italy in anticipation.

Here the noun phrase *every semanticist* is modally ambiguous even though it is not in the syntactic scope of a c-commanding modal operator: Quantification can either be over all persons who are semanticists in *our* world, or over all persons who are semanticists in Sarah's dream world. The latter set need not be identical with the former, of course. According to Farkas (1997), intensional verbs such as *dream* bind the world variable of the predicates they embed.[28] Once again we see that the nominal expressions embedded in the modal context (Sarah's dream) can escape this binding relation.

Another example demonstrating that nominal predicates can be interpreted independently of the circumstance of evaluation is discussed by Kratzer (2007). Consider (7), uttered by a professor of somnology at the beginning of a sleep lab experiment:

(7) Everyone is asleep and is being monitored by a research assistant.[29]
((19) in Kratzer 2007:12)

[28] To be more precise, Farkas (1997) has a slightly different, DRT-based system, in which situation / world parameters are indices on variables and predicates. These indices serve the same purpose as situation / world variables in other systems, though.
[29] The example is originally from Soames (1986).

Here, the problem is that surely *every*one cannot be asleep if there are persons monitoring others? – The example nicely illustrates that it will not suffice to equip noun phrases with a world-time parameter: Assuming that *everyone* is semantically equivalent to *every person*, no manipulation of its time or world variable will help to exclude the research assistant from the restrictor, the set of all persons (at a given world and time): In every possible world it holds that a research assistant is also a person, so that giving the quantifier *everybody* a different world-parameter from *a research assistant* won't do the trick. Moreover, notice that there are no modal or temporal operators around in (7) that we could move back and forth to arrive at different circumstances of evaluation for *everyone* and *a research assistant*. Whereas one could try to account for (5) with a theory of scope interaction between *every fugitive* and *now*, and for (6) with an interaction between *every semanticist* and the modal quantifier, no such solution is possible for (7). The fine-grainedness we now need is only provided by situations: Suppose that before the sleeping experiment started, the subjects in the lab had to sit down on their beds for a while and swallow a sedative substance as a preparatory means. This state of affairs can be comprised in a separate situation, call it "Sleep Lab Preparation"[30]. Given this presumption, it is indeed possible that the universal quantifier in (7) excludes the research assistant because its restrictor set is not the set of all persons but rather the set of all persons who have undergone the mentioned preliminary actions in "Sleep Lab Preparation". What we need, then, is an explanation for precisely how "Sleep Lab Preparation" comes to affect the meaning of (7), starting from the presumption that the whole sentence describes a minimal situation that makes its content true. This explanation has two technical components: Firstly, we must provide noun phrases with the possibility of being evaluated independently of the main predicate; and secondly, we must specify how this possibility is exploited in a given noun phrase. As for the first ingredient, I will assume, with Heim (1990:146), that predicate expressions come out of the lexicon with a situation argument in addition to their individual argument. The meaning of the noun *semanticist* will thus be rendered as follows:

(8) $[[\textit{semanticist}]] = \lambda x.\lambda s.\ \text{semanticist}(x)(s)$

The second ingredient, namely that of stating how situation arguments can be exploited to realize the necessary shifts of evaluation, leads us to an important distinction between two sorts of situations: "topic situations" (which I have been calling "situation under discussion" up till now) on the one hand, and "resource situations" on the other hand. This distinction will be important for what follows, so I will take some time to explain it in the next sub-sections. But before we get to that, let us summarize the situation semantic assumptions made so far:

[30] I follow Kratzer in giving names to situations, because it greatly facilitates the exposition. Situations are normally too ephemeral to be given names in the object language, unless perhaps one counts events as situations or vice-versa; see Kratzer (2007, section 9), and Elbourne (2005:186f.) for discussion of this point.

- A situation is defined by the individuals (particulars) that occur in it, plus the properties and relations they exemplify.
- Natural language utterances are evaluated with respect to situations. Those situations are implicitly referred to by speakers (situational referentialism).
- Utterances describe the situations implicitly referred to as being of a certain type.
- Described situations are always minimal situations.
- A maximal situation is a called a "world situation", or "world" for short.
- Nominal predicates have a situation argument as a matter of lexical specification.

3.3 Topic situations and resource situations

3.3.1 Topic situations as truth-makers

To begin with, I take it as given that every assertive utterance must be assessed with respect to some circumstance of evaluation. For the purpose of analytic semantics, it will be sufficient to state that a circumstance of evaluation is that which makes a (statement of a) sentence true. In standard modal semantics, truth-makers are possible worlds: A statement is true if the proposition expressed holds of the world under consideration (by default, the actual world). This leads to formalizations like (1) above, where the world variable stands for a circumstance of evaluation. The change from worlds to smaller domains entails that circumstances of evaluation are no longer worlds, but situations. Situations with respect to which utterances are assessed are called "topic situations". This terminology recalls the use of the term "topic" where it refers to the domain relative to which an utterance is to be interpreted. Thus, Chafe (1976:50) defines that "the topic sets a spatial, temporal, or individual framework within which the main predication holds." For example,

(9) The U.S. military is doing a great job.

might be false with respect to the topic "the present situation in Iraq", but true with respect to "the present situation in Afghanistan".

I will assume that topic situations can be introduced explicitly.[31] In certain languages (e.g. Japanese), this goes along with a special construction, in which the topic is set off from the rest of the sentence. English has no such special construction, although there are ways of information packaging that come close to topic marking:

[31] This assumption is not undisputed. Récanati (1999) argues that we cannot allow a topic situation (what he calls 'reference situation') to be linguistically expressed, on pains of producing a pragmatic contradiction. The contradiction, according to Récanati, results if one and the same situation is both mentioned in an utterance and employed to evaluate that very utterance. However, in my opinion not everything that is linguistically expressed automatically contributes to truth-evaluation. Topic-marking can be seen as a way to prevent linguistic material from being put to that use. I will make this idea clearer in section 3.5.2, where the notion of a "minimal proposition" will be introduced.

(10) As for the situation in Iraq, the U.S. military is doing a great job.

(11) The present situation in Iraq is such that the U.S. military is doing a great job.

(12) They say about present-day Iraq that the U.S. military is doing a great job.

Of course, ordinary individual terms can be inserted in what are considered dedicated topic positions, too, as in:

(13) Your brother, I gave (him) the missing papers.

but, as Kratzer (1989:613) notes, individuals, when treated as bearers of characteristic properties, represent states of affairs, and, thus, can be described in terms of situations, too. The same point is made by Récanati (1996), who talks not of "situations", but of "domains" (a term that I will also sometimes use):

> "The individual object Mary determines a set of facts, viz. the set of all the facts concerning Mary; hence it qualifies as domain. When it is interpreted with respect to that domain, the utterance 'Mary is in love with John' says that the set of facts concerning Mary includes the fact that she is in love with John. […] Any kind of entity which we are capable of thinking about (i.e. any kind of entity such that we have the resources for 'filing' information concerning it) can serve as 'domain'." (Récanati 1996:464)

Another direct way to establish a topical domain / situation is to ask a question. A question sets the referential frame for the ensuing answer:

(14) What is the present situation in Iraq?
– The military is doing a great job.

A sentence denotes the set of topic situations that make utterances of that sentence true. Consequently, we can render sentence meanings as abstracts over possible topic situations. Using s^t as a symbol for topic situations, (2) can be re-written thus:

(15) $[[p]] = \lambda s^t.\ p(s^t)$

A complication is brought into play by tense. We said that situations are smaller regions of worlds, but worlds are normally considered to be ontologically independent of time. This is why circumstances of evaluation in possible worlds semantics usually consist not of worlds alone, but of ordered pairs of worlds and times. On the other hand, the very notion of a situation seems to involve time as an ingredient, not as something that must be added to a situation in order to yield a circumstance of evaluation. I will

therefore work without temporal variables, my justification for this being that we can think of points in time / temporal intervals as constituents of situations.

3.3.2 Resource situations as referential aids

Resource situations are different from topic situations in that they are of a reference-fixing rather than of a truth-making kind. By bringing to bear knowledge shared between speaker and hearer, resource situations help to determine which referent it is that the speaker is making an assertion about, not whether the assertion made is true or false. We saw this in the above examples where the denotation of the noun phrases *every fugitive*, *every semanticist* and *everyone* had to be retrieved from situations which were *not* the circumstances of evaluation. In what follows, I will further motivate the assumption that nominal situation parameters can assume values different from the circumstance of evaluation. While example (7) already gave us a taste of how this might be argued, I will concentrate almost exclusively on sortal definite descriptions as an example of a construction which requires a non-topic situation for its interpretation (see section 3.5 below). Just like individual variables, resource situation variables can be set to contextually accessible values or directly quantified over by certain operators. We will concentrate on the first option for now and shelve the second option until the next chapter.

Next I would like to address the question of what enables resource situations to become contextually accessible. – According to Barwise & Perry (1983:36), resource situations can be salient (and thus accessible) by virtue of being the object of direct perception, of being part of the interlocutors' shared particular or general knowledge, or by having been built up in the previous discourse. This division clearly recalls that proposed by Clark & Marshall (1981) who, based on the classificatory work of Hawkins (1978), distinguish between "physical co-presence mutual knowledge", "community membership mutual knowledge", and "linguistic co-presence mutual knowledge". It is worth going through these three types of knowledge in turn because they can affect linguistic structures, as we will see later on.

The first type, called "*physical co-presence mutual knowledge*", is the kind of knowledge shared by virtue of having the same immediate perceptual environment, thereby yielding mental representations of the same objects. As is well known, the speaker can use a definite description if the hearer has perceptual access to the intended referent. It is possible, but not necessary, that the hearer is already aware of the existence of the referent at the moment that the utterance is made. Thus, (16) can be a felicitous request whether the hearer has already perceived the hammer in question or not:

(16) Pass me the hammer, will you? ((14) in Lyons 1999:6)

Lyons (1999:164) points out that in many cases, a deictically-used definite description can be replaced by a demonstrative description without changing the meaning of the sentence in which it is embedded. So, instead of (16), the speaker could have uttered (17) to the same effect:

(17) Pass me that hammer, will you?

Note, however, that (17) requires an accompanying pointing gesture of some sort, whereas (16) does not (but it does not exclude one, either).

Clark & Marshall (1981:46f.) take physical co-presence to be the most basic and most reliable kind of mutual knowledge. If possible, speakers try to exploit physical co-presence for purposes of reference.

The second type, "*community membership mutual knowledge*", is the kind of knowledge shared due to the interlocutors' having overlapping cultural backgrounds. The authors give several examples of such cultural communities: Being among "educated Americans" allows you to use the name *George Washington* without further explanations as to the identity of the name bearer. Being a Stanford University member makes reference to *the church* or *the library* possible. Being a psychiatrist among psychiatrists allows you to refer to *Freud's theory of neurosis*. Further communities the authors mention are e.g. "Palo Alto home owners", "San Francisco Forty-Niner football fans", and "nineteenth-century history buffs".

The third type, "*linguistic co-presence mutual knowledge*", is the kind of knowledge shared by virtue of participating in the same discourse. As a discourse evolves, new referents are introduced, and old referents are described in more detail. Interlocutors must keep track of these changes somehow. Once a referent has been introduced, a definite expression can refer back to it. This process, called anaphora, presupposes "linguistic co-presence". I repeat an example from chapter 2:

(18) A man came in. *The man* smiled.

Now, if we assume that (mutual) knowledge is basically knowledge of situations (be they specific or general in nature), the above taxonomy can be grafted onto classes of situations, which explains why Barwise & Perry's taxonomy of resource situations is so similar to Clark & Marshall's knowledge taxonomy.[32] Barwise & Perry point out that the central purpose of resource situations is to enable or facilitate the hearer's task of finding the speaker-intended referent by drawing from one of these shared knowledge bases. As a result, the semantic conditions – descriptive and procedural – embodied in a

[32] Clark & Marshall assert that the objects of "mutual knowledge" are propositions in some places of their paper, and individuals in others. This verbal ambiguity might be avoided by assuming a notion like "domain" in the sense of Récanati (1996), cf. the above quote, or "thick particular" in the sense of Kratzer (1989:613), which subsumes both states of affairs in the ordinary sense and individuals as holders of properties.

noun phrase must be satisfied with respect to those resource situations (or "resources", as I will sometimes just call them). Technically, then, we need to furnish noun phrases with situation variables of their own. In formalizing example (7), I use the indexed s^r to indicate that the situation variable of the noun is not (a priori) the same as the topic situation variable, s^t.

(7)F $\lambda s^t. \forall x [[person(x)(s^r)] \rightarrow asleep(x)(s^t) \& \exists y[research\_assistant(y)(s^t) \& monitor(y,x)(s^t)]]$

At this point I will not go into the question of what happens with the situation index of the indefinite description *a research assistant*. I will simply assume that *a research assistant* is part of the main predication here (qua being part of the complex predicate *is monitored by a research assistant*) and hence its situation variable is automatically set to the topic situation. Now, since s^r is a variable, it either needs to be suitably bound, or it needs to be assigned a referential value. Given the absence of a situation variable binder in (7)F, only the latter option is available in that case. Heim & Kratzer (1998:243) assume that "the physical and psychological circumstances that prevail when an LF [= Logical Form, J.W.] is processed will (if the utterance is felicitous) determine an assignment to all the free variables occurring in this LF." The contextually determined assignment function is called g_c by Heim & Kratzer (the subscript probably stands for "context"). (7)F reveals the sort of principled constraints on g_c that we are interested in here: If g_c assigns "Sleep Lab Preparation" to the free variable s^r in (7)F, the result will be felicitous. If however g_c assigns "Sleep Lab Monitoring" to s^r, the result will be infelicitous, since "Sleep Lab Monitoring" is the topic situation for (7)F, and this situation contains the research assistant. Consequently, the domain parameter of the noun phrase *everybody* must be different from that of the main predicate of (7)F. This is, in broad strokes, how the need for independent resource situations in connection with quantifiers like *every N* is derived.

To avoid misunderstanding, I would like to add that the terminological differentiation between topic and resource situations does not imply an ontological difference: Situations constitute a single class of entities; the difference is only in what they are employed for in natural language utterances. Whether something is (employed as) a topic or resource situation can only be determined with respect to a given linguistic event. Later on, we will encounter structures in which one and the same situation serves both as a topic and as a resource even within the same sentence. The '*t*' or '*r*'-indices on the situation variables do not have any theoretical significance; I only use them to indicate what kind of value the variable will end up with in the process of contextual value-assignment (If you are confused by the indices, just ignore them). This assignment is not pre-determined by the variables themselves but is, rather, an *effect* of the noun phrase / verb phrase meaning. The theory proposed here is about how these effects come about in the interpretation of utterances. For instance, it aims to explain why it is that the situation variable of a sortal definite description requires a value different from the circumstance of evaluation for the surrounding proposition. The

terms “topic” and “resource” are merely useful descriptive labels and do not refer to items in our semantic construction kit.

3.4 Situational referentialism and situation variable binding

Situation variables do not always have to undergo indexical instantiation, they can also be bound. The binding items are adverbial quantifiers like *always*, *mostly*, *generally* etc. Research in the wake of Lewis (1975) has revealed that the binding of situation variables has certain shared properties with the binding of individual variables. A case of individual variable binding is (19):

(19) [Every girl]$_i$ thinks she$_i$ is a genius.
(19)F $\forall$x [x is a girl $\rightarrow$ x thinks that x is a genius]

A case of situation variable binding is shown in (20):

(20) John always sings in the shower.
(20)F $\forall$s [John is in the shower in s $\rightarrow$ John sings in s]

What (20) expresses can be paraphrased roughly as “all situations in which John is in the shower are situations in which John sings”. Since situation variables are covert, we cannot identify the element that gets bound on the surface, i.e. there is no counterpart to the personal pronoun *she* in (20). The precise functioning of quantificational adverbials is a research topic in its own right which I will not be able to deal with here in any detail, but the general distinction between situation binding, as in (20), and situation instantiation (or reference to situations), as in (7), will become prominent in later chapters. A point that we should deal with right away is how logical forms like that in (20)F can be reconciled with situational referentialism, i.e. Austin’s dictum that every utterance is evaluated with respect to a situation implicitly referred to. There is apparently no room for reference to a situation in (20)F: The only situation variable present is bound by the universal quantifier. Does this show that Austin is wrong? – Not necessarily. Building on Kratzer (1978), Farkas (1997:193f.) argues that quantification over worlds / situations is not totally unrestricted, but confined to a contextually-determined subset of possible worlds / situations (I will talk of situations from now on). In Kratzer’s original terms, quantification is confined by a “conversational background”. A conversational background is a function that maps the actual situation to the set of situations in which laws, experiences, expectations about the normal course of events, etc. are the same as in our world. The output of the conversational background, a subset of the set of all possible situations, is the domain of quantification. According to Farkas (1997:193), when quantification over situations is introduced by adverbs such as *sometimes*, *always* or *usually*, it is primarily our expectations about the normal course of events that restrict the quantificational base. Applied to (20), this

means that quantification is not over all possible situations in which John is in the shower, but only over those in which the state of John's being in the shower is "as expected" or, as Austin (1961:90, fn.2) puts it, "sufficiently like the standards" of the actual world situation. For instance, if (20) is uttered in our world situation, we may disregard situations in which John's vocal cords are exceptionally inflamed, in which John is in the shower to clean the cubicle, in which John is lying in wait for a burglar, etc. All of these circumstances interact in a certain way with (our expectations about) people singing in showers, and they could all be different in other world situations unlike ours (there are possible world situations in which singing is a remedy for inflamed vocal cords, in which shower cubicles become clean if you sing to them, etc). So it turns out that an indexical component is inherent even in cases like (20), where situations are quantified over. A more precise rendering of the sentence in (20) could look like this:

(20)F' $\forall$s [[in the shower (j, s) & $R_{exp}(s, w_0)$] → sings (j in s)]

R_{exp} represents the conversational background that makes accessible the set of situations in which things are closest to the actual world situation with respect to our expectations about people's – or perhaps more particularly, John's – being in the shower (where *j* stands for John, and w_0 is the actual world situation).[33] As a result, even sentences with a prefixed adverbial quantifier like *always* or *usually* involve an indexical component which forces us to take into account the actual world situation. So situational referentialism is not invalidated by these structures.

Next, what is the topic situation for (20)? – We defined topic situations to be our circumstances of evaluation, and (20) needs to be evaluated with respect to the single members *s* of the set of situations in which John is in the shower. On the other hand, the extension of this set cannot be determined without making reference to s_0. In a sense, then, (20) has two candidates for the status of topic situation: *s*, the quantified-over situation, and s_0, the situation implicitly referred to. But multiple topics are not unheard of – see Lambrecht (1994:147ff.), who makes a distinction between primary and secondary topics. In some languages, topicalisation constructions are iterable. Here is an example from spoken French:

(21) En France, le président, il est chef des armées. SPOKEN FRENCH

lit. 'In France, the president, he is commander-in-chief of the army.'

In this sentence, the constituent *en France* 'in France' corresponds to the topic as a "framework" of evaluation in the sense of Chafe (1976), whereas the constituent *le président* 'the president' is the topic in the aboutness-sense of "topic". If we try to

[33] A rendering that the reader might be more acquainted with is to write $C(s)$ instead of $R_{exp}(s, s_0)$. It is found in Krifka et al. (1995) and many other works relating to generically quantifying sentences. The predicate *C* introduces a contextual restriction that basically does the same as the "conversational background".

imitate this type of construction to give a paraphrase for (20), we arrive at something like the following:

(20)' Things being as they are in our world, whenever John is in the shower, he sings.

where *things being as they are in our world* provides the frame, and *whenever John is in the shower* describes the type of situation the statement is about.

What has just been said about quantification over situations as a whole is also true of one of the major constituents of situations: time. Consider the following example where the verb is in the present perfect:

(22) (*At ten o'clock) Peter has arrived.

The present perfect tense is relatively "non-specific" in that it does not locate the reported event at a certain moment in time – cf. the impossible adverbial specification *at ten o'clock*. So we can say that the present perfect simply introduces existential quantification over points in time, no reference to a particular time. But, still, there is a referential component to this, since (22) can only be truthfully uttered if Peter's arrival took place before the time of utterance (t_0), which is, of course, contextually determined. So (22) contains what can be called implicit reference to a time t_0 ($<_\tau$ stands for the temporal precedence relation):

(22)F $\exists t\ [t <_\tau t_0 \ \&\ \text{arrive}(p)(t)]$

Other tenses, like the simple past, are even more directly dependent on a reference point. For an utterance of *Peter arrived* to be felicitous, there must be a specific past event in the discourse context that allows Peter's arrival to be located near it. The pervasiveness of tense in natural language makes it the case that the vast majority of sentences must be evaluated with respect to an indexically-provided component, quite in line with situational referentialism.

In what follows, I will mostly suppress reference to contextual parameters in the analysis of statements quantifying over situations. But the observation will have some theoretical import for the analysis of functional descriptions in section 3.5.2., and I will come back to it then.

We are now all set to inquire how our general assumptions about the semantics of noun phrases impinge on definite descriptions, the noun phrase type we are most interested in. The prediction is that the observations we made in connection with quantificational expressions like *every* will re-emerge because situation variables were assumed to be attached to predicates, and not to any one particular determinative.

3.5 Definite descriptions in situation semantics

The difference between sortal and functional nouns brought to bear in section 2.2 has implications for the situation semantic treatment of descriptions. In 3.5.1, I will deal with sortal descriptions; 3.5.2 will be about functional descriptions of the kind discussed in 2.2. The nature of the unambiguity implications of the two description types will be compared in 3.5.3. In 3.5.4, I will deal with a variant of functional descriptions (mentioned briefly in 2.2.2.1) which consist of only a functional noun with no ensuing argument expression.

3.5.1 Sortal descriptions

In order to test whether the above conclusions hold not only for quantifiers but also for definite descriptions, we can simply substitute the *every*-noun phrases in the examples from 3.2 accordingly and see what happens:

(4)' *The fugitives* are now in jail.

(5)' If *the semanticists* owned a villa in Tuscany, what a joy this world would be.

(7)' *The person* is asleep and is being monitored by a research assistant.

(4)' is well-formed and possibly truth-conditionally equivalent to (4). (7)', with an experiment slightly shrunk to contain only one sleeper, is just as felicitous as (7). (5)' apparently has no bound-situation-variable reading, something which has to do with the semantic peculiarities of the English definite article, as we will see later. I will put this type of example aside for now.

That definite descriptions have their own situation variable is not surprising given that we attributed this property to the nominal predicate and not to the determiner. This assumption makes the issue of domain selection independent of the question of whether definite descriptions are quantificational or not. The arguments made here in connection with domain restriction and definite descriptions should thus go through on either theory.

To complete the picture, we can also try indefinites. Let's consider noun phrases with *some*:

(4)'' *Some fugitives* are now in jail.

(7)'' *Somebody* is asleep and is being monitored by a research assistant.

These latter examples are also impeccable, and moreover they help us spot a significant difference between (4) and (7): With (4), the difficulty is in reconciling the contradictory requirement that the *predicates* impose – being a fugitive vs. being in jail –, whereas the problem in (7) is posed by the requirements that the *determiner* contributes. In (4)'', with the indefinite determiner, there is still the question of how (one or more) fugitives can be in jail. (7)'', on the other hand, contains no puzzle whatsoever: To say that somebody is asleep and at the same time monitored by a research assistant is an entirely blameless statement. The problem only arises when we say that *every* person is asleep, since this apparently leaves no room for any monitoring persons. It is thus the exhaustiveness that *every* imposes on the restrictor set that collides with the meaning of the verbal predicate. *Some*, being a non-exhaustive determinative, causes no such trouble, and so (7)'' is fine. A situation in which some person is asleep and another person is monitoring her or him is easy to imagine. And what about (7)', with the definite article? – Well, (7)' has problems of its own, which can be illustrated using the following simplification:

(23) *The person* is being monitored by a research assistant.

(Notice: It is not even necessary that the person be asleep to make the point.) We defined in section 2.2 that a definite article implies unambiguity of the referent of the noun phrase. So, if we have *the person*, we have the background implication that there is exactly one person present in the situation described by (23) – let's call it "Sleep Lab Monitoring". And so, there is a clash with the verbal predicate which says that our "unambiguous" person is being monitored by another person, a research assistant.[34] This difficulty (which also stems from exhaustiveness, here in the guise of the uniqueness condition) can be avoided as well if we shift the situation argument of *the person* to "Sleep Lab Preparation", which (by our new assumptions) indeed contains only one person, the one subject of "Sleep Lab Monitoring".

We have seen now how resource situations can help avoid semantically contradictory requirements arising through the combination of noun phrase meaning and verbal predicate meaning. But where definite descriptions are concerned, the remedy we have found is in fact much more than a strategy employed on the few occasions on which a semantic clash is to be avoided. In the context of the sleep lab experiment, for instance, one can leave the research assistant out of the picture, but a resource domain is *nonetheless* required:

(24) The person is asleep.

[34] The same problem is posed by McCawley's (1979) famous example

(i) The dog got into a fight with another dog.

which motivated Lewis (1979) to analyse definite descriptions in terms of salience rather than uniqueness (cf. section 2.1.3).

This sentence would be formalized in situation semantics as in (24)F:

(24)F λs^t. asleep (ιx. person(x)(s^r))(s^t)

Recall that we analysed the definite article before sortal nouns as denoting *iota*, a function from a set (denoted by the noun) to an unambiguous member. On the situation-semantic assumption that the noun *person* denotes not a set of individuals but instead a relation between situations and individuals, the resource situation s^r in (24)F must be chosen so that the resulting set contains exactly one member. Otherwise *iota* could not produce an unambiguous output, and (24) would turn out uninterpretable. Assuming, further, that interpretation proceeds bottom-up, the choice of a suitable resource must be made *before* we get to the assessment of the whole sentence. Put differently, it is not an option to assign a value to s^t, the topic situation, first, and only then go on to see whether there happens to be an individual in there which unambiguously satisfies the nominal description, i.e. whether we can just identify s^r with s^t. This is so because we need to fix the referents − the subjects of predication − *before*, and with the object of, assessing the full propositional content, on pains of producing a presupposition failure during the compositional process. − Next, note that the nominal constituent *person* cannot give us unambiguity by itself; this is a sortal noun, which implies that there are potentially several members in the corresponding class (in the case at hand, there are presently more than six billion). In this respect, sortal nouns differ decisively from functional ones (cf. section 3.3.2). With sortal definite descriptions, unambiguity must be provided from the outside, as it were: The hearer has to find an accessible resource situation in which there is no more than one referent answering the description. He has to have specific contextual knowledge − which for (23) / (24) is knowledge of the characteristics of "Sleep Lab Preparation". The hearer could have witnessed that situation himself (physical co-presence) or have been told about it (linguistic co-presence). A coherent though imprecise report of the "Sleep Lab Preparation" – "Sleep Lab Monitoring" sequence could be (25):

(25) In the sleep lab, a person swallowed a sedative and lay down on a bed. Right now, *the person* is asleep and is being monitored by a research assistant.

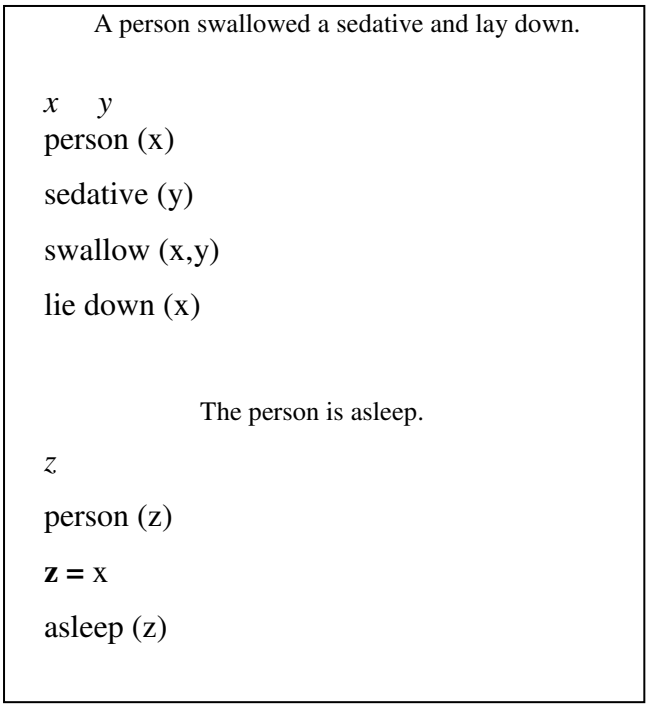
After hearing (25), the interpretation of *the person* is no longer problematic. The first sentence describes a minimal situation with exactly one entity characterised as a person in it. By the time the second sentence is processed, the situation parameter of *the person* can be instantiated with this situation ("Sleep Lab Preparation"), thus satisfying the unambiguity requirement imposed by the definite determiner. The fact that "Sleep Lab Monitoring" itself does not provide for an unambiguous entity that can be described as a person does not matter; this shows again that reference-fixing must occur before the propositional content under consideration is assessed.

The above remarks, the reader may have noticed, are the beginnings of an account of anaphoric relations from a situation semantic point of view. Noun phrases such as *the*

person in (25) are sometimes called "anaphoric descriptions" because they are backwards- related to another noun phrase (and *its* referent) in the discourse. We have seen Löbner's (1985) attempt to deal with anaphora by setting up functional dependencies between discourse referents, and its ensuing problems. I do not assume that sortal descriptions denote functions from individuals; they denote unambiguously thanks to the prefixed iota-operator, and relativisation to a domain comes in via the situation argument.

It might be useful at this juncture to draw a quick comparison with the treatment of anaphora in theories of discourse representation such as Kamp's (1981) "Discourse Representation Theory" (DRT) or Heim's (1982) "File Change Semantics" (FCS), too, as these theories were explicitly designed in order to model anaphoric dependencies. Recall from the exposition that in said theories, the way to proceed is to build up a stock of "discourse referents", i.e. entities mediating between linguistic and wordly entities, and the descriptive conditions attached to them. An indefinite noun phrase contains the instruction to add a new discourse referent to the stock (the "discourse model" in DRT, the "file" in FCS), whereas a definite noun phrase is one that requires identification with a discourse referent already in the stock. A beginner's representation of (25) in DRT, disregarding factors like tense, would be the following:

(25)DR



The step that brings out the definiteness of *the person* is the one marked in boldface, '***z* = '**. This says that the discourse referent *y* that the noun phrase *the person* introduces must be identified with a discourse referent already in the stock. *x* is the perfect

candidate to be inserted on the right-hand side of this equative condition, given that *x* was described as being a person previously in the same discourse and, moreover, it is the only referent so described. Once again, I leave the question open as to whether uniqueness should be coded in a separate condition, or whether the equative condition alone is enough to guarantee uniqueness.

In the situation semantic approach put forward here, there is nothing quite analogous to a stock of discourse referents. The referents of definite descriptions are not retrieved by matching new discourse referents with other discourse referents, but, rather, by choosing the maximal entity satisfying the associated description. A precondition of this type of referent construal is that the interlocutors agree upon the domain in which the referent is unique / maximal, since, by assumption, uniqueness / maximality only holds relative to resource domains. But what defines the size of the domain in question? – This is the problem that situation semantics has but possible worlds semantics doesn't. A first guess would be that the domain relative to which uniqueness holds is as large as can be, i.e. the domain that contains all the information accumulated in the relevant discourse so far, never any sub-part thereof. A piece of evidence in favour of this hypothesis is the following example:

(26) A woman entered from stage left. Another woman entered from stage right. #*The woman* was carrying a basket of flowers. (Roberts 2003:324)

In principle, there would be two situations present in (26) that could satisfy the uniqueness requirements of *the woman* in the third sentence: The first one is the minimal situation (call it s_1) described by *A woman entered from stage left*, the second one is the minimal situation (s_2) described by *Another woman entered from stage right*. But the continuation *The woman was carrying a basket of flowers* is infelicitous all the same; it provokes the question "Which of the two women do you mean?". We may analyse this infelicity as triggered by the failure to satisfy the uniqueness assumption implicit in the singular description *the woman*. Apparently, then, the uniqueness requirement cannot be satisfied by s_1 or s_2 but has to be the maximal situation described in the discourse. Let us call this latter situation the "discourse situation" from now on. Since there is no unique woman in the discourse situation, the description *the woman* fails to refer. Note that the continuation *The women were carrying a basket of flowers* (plural subject) would be felicitous because the cumulative anaphor finds its antecedent through the maximization of women introduced in the discourse situation (there are two of them).

But there is more to be said about the accessing of previous discourse via definite descriptions. Consider the following:

(27) Mary opened the door. A woman from the police walked in. *The woman* asked some questions.

Suppose that both speaker and hearer know that Mary is a female adult. Then there is the problem that *the woman* should be infelicitous in (27) since there are two individuals that satisfy the description *woman* in the preceding discourse, not one. But (27) is a felicitous piece of discourse. This would be easy to explain on the assumption that the uniqueness requirement of *the woman* can be satisfied by sub-situations of the whole situation described by the previous discourse. We could then relate it to the minimal situation described by *A woman from the police walked in*. But then we would still have to explain why the referent of *the woman* is retrieved from this second sub-situation and not from the one described by *Mary opened the door*. This might be done by stating that *iota* is sensitive to discourse salience, as follows: *iota* prefers asserted predicative material over predicative material that is part of the background implications. I assume that what is asserted is (at the moment after the assertion) more salient than what is in the background (at the same moment). As for (27), the fact that Mary is a woman is merely part of the background – via the conventions of use attached to the name *Mary* –, whereas the fact that the envoy of the police is a woman is asserted in the second sentence.[35] In (26), on the other hand, there are two individuals of whom it is asserted that they satisfy the predicate *woman*, and so *iota* (in connection with a singular predicate) cannot apply: None of the two occurrences of the predicate expression *woman* is more salient than the other, and the singular unambiguity implication of *the woman* cannot be satisfied. If there is no competition between asserted material and material in the background, we predict that *iota* will be able to operate on background material, as there is no more salient material around. (28) shows that this is true:

(28) Mary came in. The woman coughed.

Here it is possible for *the woman* to be co-referential with Mary. The following mediating inference in the background makes this possible (where *m* stands for Mary):

(29) $\forall x$ [named_mary(x) $\rightarrow$ female(x)]
named_mary(m)
---
female(m)

Next, notice that once we avail ourselves of this salience-based solution, we can get rid of the assumption that *iota* has access to sub-domains of the discourse. We only need to state that *iota* has the whole preceding discourse in its domain, and that, in the case of

[35] I use "assert" here in a more surface-oriented way, rather in the sense of "being pronounced". I mentioned earlier that the descriptive material of definite descriptions is presumably presupposed, i.e. part of the background, rather than asserted, but still the following variation of (27), with a definite description replacing the indefinite one in the second sentence, works equally well:

(i) Mary opened the door. The woman from the police walked in. The woman asked some questions.

competition, the more salient (i.e. asserted) predicative material will be preferred over the less salient (i.e. backgrounded) material.[36]

Remnant cases like Lewis' "*cat*"-example ((11) in section 2.1.3), repeated below, are still a problem, of course:

(30) The cat_1 is in the carton. The cat_2 will never meet our other cat, because our other cat lives in New Zealand. Our New Zealand cat lives with the Cresswells. And there he'll stay, because Miriam would be sad if the cat_3 went away.

In this piece of discourse, the critical definite description token *the* cat_3 is co-referential with *our other cat*, not with the $cat_{1/2}$. In both of these candidate antecedents, the predicate 'cat' is equally backgrounded – but still *iota* applies successfully in the case of *the* cat_3. The acceptability of this example speaks in favour of a more differentiated approach to salience like that developed in von Heusinger (1997), where salience rankings are automatically updated at each time a descriptive expression occurs. This makes the notion of choice via salience more dynamic than what a simple division into background and assertion can afford. I will come back to this issue in section 3.5.5 below.

In this section, the context dependence of definite descriptions was demonstrated using *the person*, i.e. a sortal description. It is now time to see what changes when we turn to functional descriptions.

3.5.2 Functional descriptions

In section 3.3.2, anaphoricity turned out to be a feature accompanying sortal definite descriptions: Since the head noun of a sortal description never denotes unambiguously (*qua* being sortal), unambiguity must be derived by retrieving a contextually-supplied resource situation in which unambiguity with respect to the nominal content holds. The physical context of utterance, or shared encyclopaedic knowledge can also provide such a resource so that sortal descriptions can also be used deictically, or with a view to remind the hearer of a mental representation stored in long-term memory. Functional descriptions are different: As was shown in section 2.2.2, they produce an unambiguous referent by virtue of their descriptive content alone. Consequently, their unambiguity is "self-contained" insofar as it is guaranteed *independently of any particular situation under discussion*. No matter which situation is chosen to assess the truth of the utterance

[36] I could have used salience as the sole principle of choice for all sortal definite descriptions right from the start. The reason I did not do this is the following. In cases in which there is only one entity satisfying a given predicate *N* in the discourse, choice via salience is otiose: "the most salient N" is simply "the unique N". Were one to explain what "the most salient N" means when there is only one *N* around, one would need to specify what "the unique salient N" means, and to do this a maximization / uniqueness principle becomes necessary.

in which the functional description figures as an argument, the nominal content itself makes sure that there will be an unambiguous individual satisfying that description. Consequently, the hearer is relieved from the task of finding a resource situation in which the referent is unambiguous before proceeding to the assessment of the whole utterance. Searching for a resource situation comes at a cost: It requires the hearer to scan his discourse model or perceptual or memory space in order to retrieve the intended referent, and only after this is done can he proceed to assess the complete utterance. I therefore submit that if this search *can* be avoided, it *should* be avoided, and propose the following rule, which predicts the differing semantics for sortal and functional descriptions:

(31) *Economy of Domain Assignment:*

> Do not shift to situation parameters outside of the minimal proposition unless this is necessary to satisfy the unambiguity requirements of the associated noun phrase.

In the case of sortal definite descriptions, there is no way to get around a situation shift, for reasons laid out in the preceding sections. In the case of functional descriptions, the opposite holds: They *never* need a resource situation to have their unambiguity requirements fulfilled. But what values can their situation variable assume instead? The answer, according to (31), depends on what we find in a "minimal proposition". By a "minimal proposition" I mean the semantic entity consisting of a predicate and the set of its arguments; the clause denoting a minimal proposition I will call the "minimal clause".[37] In section 4.5, I will present data suggesting that we can identify a minimal clause with what is the I(nflectional)P(hrase)-boundary in syntactic parlance. One situation we have in every minimal proposition is the topic situation because that is the situation with respect to which the main predicate is evaluated. So we could hypothesize that "Economy of Domain Assignment" implies that functional descriptions always have their situation variable set to the topic situation. But this needs to be stated more precisely. In section 3.4 I gave examples of sentences which need the situation of utterance to be successfully interpreted but in which the situation of utterance is not identical with the topic situation. This constellation arises, for instance, when situations are bound by adverbial quantifiers such as *sometimes* or *generally*, but is also and perhaps even more generally prompted by temporal shifts. The following example shows that functional descriptions are susceptible to divergences between the topic and utterance situation triggered by tense:

(32) In the nineteen-eighties, *the president of the United States* was a lobbyist.

This sentence is ambiguous between two readings:

[37] Not that there is no conceptual link between something's being a minimal situation and its being a minimal proposition / clause. It can take an arbitrary number of minimal propositions / clauses to characterize a minimal situation.

(32)' In the nineteen-eighties the *present president of the United States* was a lobbyist.

(32)'' In the nineteen-eighties the *president of the United States at that time* was a lobbyist.

The *president*-function is evidently sensitive to a temporal component: It determines its value only relative to a certain period of time. (32) shows that the temporal parameter of *president* can assume two values: Either the situation of utterance (*the present president*, meaning the president at the time of speaking), or the topic situation (*the president at that time*, meaning the president in the nineteen-eighties). Let us assume that *the nineteen-eighties* names the world situation spanning said decade ($\mathbf{s_{1980s}}$). Then the following formalizations must be assumed for (32) according to the two readings stated in (32)' / (32)'' (where *us* stands for the United States):

(32)' F lobbyist ($f_{president}(us)(\mathbf{s_{1980s}})$)($\mathbf{s_{1980s}}$)

(32)''F lobbyist ($f_{president}(us)(\mathbf{s_0})$)($\mathbf{s_{1980s}}$)

The only difference lies in whether the situation variable of the functional description *the president of the United States* is set to the utterance situation (time), $\mathbf{s_0}$, or the topic situation (time), $\mathbf{s_{1980s}}$. "Economy of Domain Assignment" allows for both of these options. The option displayed in (32)'F is made available by the adverbial specifier *in the nineteen-eighties* which names a (topic) situation that the situation variable of the description can pick up. The option displayed in (32)''F is made available by instantiating the free situation variable with the present world situation which is always an accessible value for a free situation variable to take.[38] I assume that this is also an effect of verbal tense. Either the verb is itself in the present tense (*The president of the United States is a crook*), in which case the situation variable of the description can only be set to the present world-situation, anyway; or else, the verb is in a tense that must be interpreted with respect to the present world-situation. For instance, the sentence *The president of the United States was a lobbyist*, without the adverbial temporal specification, can be given the form (33)F (the situation variable *s* of the description is under-determined with respect to the value it will end up taking):

(33) The president of the United States was a lobbyist.

(33)F $\lambda s^t.\ s^t <_\tau s_0$ & lobbyist ($f_{president}(us)(s)$)(s^t)]

[38] Pragmatic considerations can rule this option out. For instance, if the following (i) is uttered in the year 2008, the "present president"-reading will be unavailable due to background knowledge about how long human beings live:

(i) In the 1920s, the president of the United States was a lobbyist.

This makes the presence of the utterance situation variable in the minimal proposition evident.

Predictably, functional description can interact not only with tense, but also with quantification over situations as a whole. The following example, disambiguated right below, shows this:

(34) The president of the United States always spends his holidays by the seaside.

(34)F' $\forall s\ [R_{exp}(s, w_0) \rightarrow \text{spend\_holidays\_by\_seaside}\ (f_{president}(us)(s))(s)]$

'In all situations accessible from our world situation, the president of the United States *in that situation* spends his holidays by the seaside.'

(34)F'' $\forall s\ [R_{exp}(s, w_0) \rightarrow \text{spend\_holidays\_by\_seaside}\ (f_{president}(us)(s_0))(s)]$

'In all situations accessible from our world situation, the president of the United States *in the present situation* spends his holidays by the seaside.'

Again this ambiguity is predicted by "Economy of Domain Assignment" plus situational referentialism. The first reading is the one in which the situation variable of the functional description is set to the world-situation that is quantified over; the second one is the one in which that variable is set to the world-situation of utterance, i.e. the one relative to which the conversational background is calculated.

To avoid confusion, I should stress that "Economy of Domain Assignment" does *not* imply that every functional description allows its referent to be fixed without consideration of resource situations. For instance, the description *the president of the country*, although functional, has varying external referents depending on what *the country* refers to in a given context, and this, namely the interpretation of the internal argument, is where resources come in. But crucially, the unambiguity of the denotation relative to any referent assignment to *the country* is guaranteed by the compositional meaning of the complete functional description *the president of the country*.[39] The resolution of its unambiguity implication does not require specific contextual knowledge (knowledge of resource domains), although determining the identity of its referent might. These two aspects of the meaning of definite noun phrases can and

[39] Hawkins (1978) makes the same point with respect to expressions like *the bridesmaids* (at a wedding) or *the town clerk* (mentioned in a local newspaper), about which interlocutors can have various degrees of knowledge, "but this very randomness in the extent of the speaker's and hearer's shared knowledge of these larger situation objects suggests that it is not in fact a consistent part of the meaning of *the* to presuppose individual knowledge of these objects. What seems to be required is only a general knowledge that situations of various kinds, e.g. weddings, villages, countries etc. generally contain certain objects." (ibid:118f.)

should be kept apart. My present focus is on the latter aspect: namely, the way in which unambiguity implications come about and are resolved. The next section will separate the unambiguity implications of sortal and functional descriptions even more clearly.

3.5.3 The origin of the unambiguity implication

The following two examples are a minimal pair in terms of the description type they use in subject position: functional in (35), sortal in (36).

(35) *The president of the United States* is on holiday.

(36) *The statesman* is on holiday.

Out of context, (36) is bound to elicit the question "Which statesman do you mean?"; not so, however, (35). The question "which statesman?" can be understood as a question about the speaker-intended resource situation. The description in (35) does not need a resource in the first place, for the reasons adduced above. Descriptions like *the president of the United States* are sometimes called "absolutely unique" in the possible worlds framework because there can only be one individual in the world, taken absolutely, denoted by the description. In situation-semantic terms, this simply means that the selection of a resource domain can proceed arbitrarily – but note that the "Economy of Domain Assignment" rule reduces this arbitrariness to maximally two options. In (35), the topic situation time is identical with the situation of utterance time, so that the sentence has indeed only a single reading. The formalizations of (35) – (36) are:

(35)F λs^t. on_holiday ($f_{president}$ (us)(s^t))(s^t)

(36)F λs^t. on_holiday (ιx. statesman(x)(s^r))(s^t)

The unambiguity implication of (35) has the following shape:

(35)B There is exactly one president of the United States.

(35)B is not dependent on any information given previously in the discourse. Rather, it is a combination of lexical knowledge about the noun *president* and encyclopaedic knowledge about the referent of *the United States* (namely, that it is a state with a president at its head).

In contrast, sentence (36) generates the following background implication in connection with the description *the statesman*:

(36)B There is exactly one statesman in situation s^r.

To repeat, the accessibility of s^r can be secured by various sources: shared encyclopaedic knowledge, knowledge of the present physical situation, or knowledge of the previous discourse.

The comparison between (35)B and (36)B suggests that we must distinguish two types of background implications: The ones that can be resolved using linguistic and general world knowledge only, and the ones that require extra-linguistic, domain-specific knowledge for their resolution.[40] Functional descriptions trigger the first kind of assumptions, sortal descriptions the latter kind. In a pre-theoretic classification, further examples of the first type of background implication would be lexical items such as *before* (37), *stop* (38), or *know* (39).

(37) Before John moved in, Jill was happy.

(38) Paul stopped beating his wife.

(39) Alice knows that it is raining.

These implications can be resolved without a context, although at the cost of accommodation. Accommodation is necessary because the assumptions encapsulated in the examples above hold with respect to episodic or contingent situations, as made explicit by the following:

(37)B John moved in.

(38)B Paul beat his wife.

(39)B It is raining.

If these propositions are not part of the common ground / discourse situation (as we are assuming), the hearer must make a leap of faith to accept them as true (they could be false as a matter of fact). This is different from the background implications of functional descriptions which are given as pieces of general knowledge about how the world is. Of course, (35)B is a proposition about a particular country but that it can be introduced in the discourse situation is justified by a general proposition of the following form:

(40) A country generally has an unambiguous president.

[40] Zeevat (1992) makes a similar distinction between "lexical presupposition triggers" on the one hand and "anaphoric presupposition triggers" on the other hand, where the term "anaphoric" is to be understood in a more general sense: It means that the process of presupposition resolution relies on information that must be retrieved from the previous discourse. This information can also pertain to sets / properties / situations.

(35)B is only a corollary of (40). (40) does not need to be accommodated because it is part of our general knowledge. Such a mediating generalization is, however, not available for the examples (37)-(39). The generic, context-insensitive character of the background implications of functional descriptions is equally highlighted by Hawkins (1978), and Kleiber (2001).

Other examples of the other, domain-specific kind of background implications besides those of sortal definite descriptions would be the items *too* ("*John had dinner in New York, too*"), *but* ("*She is angry but I like cars*"), or intonational stress ("*Eve didn't spill the CUSTARD*"). What appears to be the decisive classifying factor is whether hearers would ever be willing to accommodate the background implication or not. While accommodation is viable in the first type, it is not in the second. It is not totally clear why this is so, but the facts do seem to be related to the question of how much of the content that the speaker wishes to convey in making the background implication can actually be captured without appeal to aspects of the context. For instance, *x stopped V-ing at t* has as a background implication "x V-ed before t", and that's that; *x knows that p* has as a background implication "it is the case that p", and that's that; *x is G, too* has as a background implication "Someone else besides x is G". But here we have a proposition that in most (if not all) cases needs to be enriched: We want to know whom the speaker has in mind in making the background implication that "somebody else" besides *x* is *G* because, as Soames (1989:604) points out, the general assertion that somebody else (no matter who) is *G* is not sufficiently informative for just any property *G* can stand for[41]. Put differently, the quantificational expression *somebody else* figuring in the background implication of *too* is in need of domain restriction which, in the case of *too*, will often narrow down the set of the "others" to a singleton. This is where the background implication of *too* is similar to that of sortal descriptions, which also require a fixed domain relative to which their (unambiguity) background implication can be assessed.

Of course, it would be technically feasible to turn the domain-specific background implication of a sortal description into a general proposition by existentially quantifying over resource situations, so that e.g. *the city* would generate the context-free background implication "There is a resource situation such that there is exactly one city in it". But this sort of accommodation does not provide a piece of knowledge the hearer of (35) can be satisfied with, since even though it does have to be true for (35) to be interpretable, it by itself gives truth conditions that are much too weak: Certainly there is some domain or other in which there is an unambiguous city that is polluted but this does not help in understanding what an utterance of (35) is supposed to communicate. The free resource domain variable in (35)B must be instantiated by a specific,

[41] Exceptions would have to contain a predicate of which the discourse participants know that it is satisfied by only one entity in the whole world. Suppose it is known that up till now, only Reinhold Messner and no-one else has climbed Mount Everest. Then (i) might be interpretable as "hot news" in an empty context:

(i) John Stevens has climbed Mount Everest, too!

contextually salient value, and this is where the "incompleteness" of *the city* – and sortal descriptions in general – comes from, and where the latter differ decisively from functional descriptions.

(Non-)anaphoricity with definite descriptions

I have claimed that the situation variable of functional descriptions is always assigned a value from within the containing minimal proposition (and let's call such situations "internal situations" as opposed to the class of "resource situations"). This has the consequence that functional descriptions can never be used anaphorically, since that would, under the current model of anaphora, presuppose having the situation argument place filled by a resource situation: Only situation variables that are assigned a resource can "reach out" beyond the minimal situation described by a free-standing sentence. Consequently, descriptions like *the capital of Germany* or *the nose of the man over there* cannot be used to pick up a referent introduced earlier in the discourse according to the present theory. This assumption finds its positive counterpart in the observation, often made, that functional descriptions can be used non-anaphorically, i.e. without there being a linguistic antecedent (Prince 1981, Löbner 1985, Fraurud 1990, Poesio 1994, Barker 2000). But do they *have* to be non-anaphoric, as I am suggesting? – English examples will not give us a decisive clue here, since there is no simple way to tell whether a given functional description is used anaphorically or not if a coreferential expression occurs earlier on in the text. (41), a fictional extract from a tourist guide on Berlin, is supposed to illustrate this. We are interested in the underlined token of *the capital of Germany*:

(41) ??# *The capital of Germany* has approximately 3,5 million inhabitants. *It* is geographically encircled by the federal state of Brandenburg. Due to a federalist political system, <u>*the capital of Germany*</u> hosts relatively few central executive functions.

Infelicities of this sort are usually dealt with in terms of "accessibility". According to Ariel (1990), each definite expression type (be it a pronoun, name, or description) encodes a specific degree to which the intended referent is cognitively accessible to the addressee, and can thus be located on a scale representing degrees of accessibility (the so-called "accessibility hierarchy"). For instance, pronouns are taken to signal high accessibility, while descriptions signal low accessibility. If a definite expression in a given context is not suited to the accessibility status of the referent, it will be infelicitous. This effect can be felt in (41), where the description *the capital of Germany* is used for a second time at a point where the referent is already highly accessible due to its being the topic of the directly preceding sentences. Accordingly, the pronoun *it* would have been more appropriate in place of the underlined description or perhaps of the proper name *Berlin*. But the sortal *the city* would also seem quite natural here. In fact, Ariel (1990) differentiates between "short definite descriptions" and "long definite descriptions" on her "accessibility marking scale"; short descriptions signal higher

accessibility than long ones (the two occupying neighbouring positions on her scale, in-between simple names and full names). This might go some way towards explaining why *the city* is better than *the capital of Germany*. But I take it that it is not only the length (measured by Ariel in the number of content words) of the descriptions that can be crucial, but also the specific *manner* in which they pick out their referent. *the capital of Germany* was analysed as a "self-contained" definite description in section 2.2.2.1, meaning that it is explicit enough to individuate a referent independently of contextual information. This type of individuation quite naturally makes the description lengthier than the anaphoric *the city*, because it needs at least two nominals, a functional and an argument expression. But, I submit, it is this noun phrase-internal structure, of which length is only an epiphenomenon, that makes the difference where accessibility is concerned: Because they denote in a context-independent manner, functional descriptions cannot be located on a scale measuring accessibility. Accessibility of a referent is itself a context-relative notion; it is determined by how the discourse situation is structured at the point where the noun phrase is interpreted, and by the specific knowledge states of the interlocutors. So the reason why the second mention of *the capital of Germany* in (41) is odd is that its referent is highly accessible / salient due to the preceding discourse, but the speaker overtly disregards this fact by using a context- and thus accessibility-independent way of referring. From this perspective, functional descriptions do not encode low accessibility, but are, rather, completely outside of the "accessibility hierarchy". In Ariel (1988), accessibility is correlated with the overall effort invested in retrieving the referent from short- or long-term memory; but we know that the referent of a functional description does not have to be in the hearer's memory at all to be used felicitously; i.e. functional descriptions can introduce novel referents. And if they do have co-referents in the discourse, they are not anaphorically linked to them, but, rather, *re-introduce* these referents (cf. Fraurud 1990:409). Even so, being outside the accessibility scale apparently has the same effect as directly encoding low(est) accessibility: There seems to exist a pragmatic principle that says that if a referent is accessible at all, the speaker is forced to signal this in choosing a suitable noun phrase form. Ariel (1988:83) derives this from relevance-theoretic considerations: high accessibility markers require "minimal contextual extension", whereas low accessibility markers require "high contextual extension". In Ariel (1990), this idea is dismissed and accessibility is presented as a primitive gradable feature conventionally given in the form of the noun phrase. On either account, a given noun phrase is only used felicitously if the maximal degree of accessibility is signalled.

A potential counterexample to the claim that functional descriptions cannot be anaphoric is the following case:

(42) George Bush left his holiday dwelling in Texas this afternoon. *The president of the United States* will meet the Chancellor tomorrow evening.

Here it seems as if the italicized functional descriptions were anaphoric on the previously mentioned *George Bush*. The clearly anaphoric pronoun *he* could have been

used in its place. However, the use of the description in (42) is special, in that it has the character of an epithet: It gives information that can be new to the hearer and the cause of the anaphoric linking is elsewhere. To understand (42) correctly, one must either draw from already existing encyclopaedic knowledge to the effect that George Bush is the President of The United States, or else one must grasp the co-reference using principles of reasoning that go beyond semantics (such as preference for topic continuity).

The discussion of (41) − (42) still does not provide decisive evidence that functional descriptions cannot be used anaphorically. It remains conceivable that a functional description can be felicitously anaphoric on an antecedent if this antecedent is sufficiently far away, i.e. sufficiently hard to access (as Ariel would suggest). A better empirical argument for this will only emerge in the discussion of the definiteness marking system in creoles in chapter 4.

An important aspect of functional descriptions that I only mentioned briefly in chapter 2 is that it is possible to suppress the internal argument. For instance, hidden in (42) is a second functional description besides *the president of the United States*, namely *the Chancellor*. It is clear that a chancellor is always the chancellor of some state or organisation, but nevertheless this information is missing in (42). This type of noun phrase, which I will call "functional descriptions with implicit arguments", will be the topic of the next section.

3.5.4 Functional descriptions with implicit arguments

Example (42) could be a piece of news transmitted over the radio or television. It would then be clear that *the Chancellor* refers to the chancellor of the country in which the news is broadcast. If it is broadcast in Germany, *the Chancellor* will refer to the Chancellor of Germany. Starting from this simple observation, a fairly obvious strategy for dealing with incomplete functional descriptions like *the Chancellor* is the following: Let's assume that the noun phrase *the Chancellor* has the same semantics as *the Chancellor of x* − speakers just drop the expression of the internal argument when it is sufficiently obvious who or what *x* is; but for the purpose of interpretation it makes no difference. In (42), for instance, *the Chancellor* is short for *the Chancellor of Germany*. And so long as it is clear that the conversation is about Germany, and not, say, Austria or the British Exchequer, the speaker is entitled to omit that bit of information when referring to the German chancellor. In (42), it is clear which chancellor is meant because of non-linguistic facts, namely the embedding of the utterance in what Hawkins (1978) calls "the larger situation", i.e. a situation in which speaker and hearer knowingly find themselves without the need for the referents to be physically present.

Incomplete functional descriptions are also possible when the linguistic context determines the missing internal referent:

(43) George Bush arrived in Germany a few minutes ago. He will meet *the Chancellor* tomorrow morning.

If someone hears this sequence of sentences uttered without knowing where the utterance is made, he still has a good chance of grasping whom George Bush will meet tomorrow because the first sentence mentions a particular country as Bush's destination, and so the hearer is entitled to infer that it is the Chancellor of Germany that Bush will meet. The sort of incomplete noun phrase use displayed in (43) is also known in the literature as "indirect anaphora" (Clark 1975, Erkü & Gundel 1987, Schwarz 2000), "associative anaphora" (Hawkins 1978, Kleiber 2001), "inferable" (Prince 1981), or "bridging cross-reference" (Lyons 1999). While all of these terms are applied to cases in which the missing constituent is given linguistically, not every author would be willing to extend them to cases like (43). I will try to treat the two sorts of incompleteness displayed in (42) – (43) as one, using situation semantics. To do this, the nature of the "incompleteness" that these noun phrases exhibit must be investigated in more detail.

The incompleteness issue

The term "incomplete" is most often used with reference not to functional, but to sortal descriptions like *the table* or *the city* (cf. Neale 1990, 2004). This is in contrast with "complete" definite descriptions but these are again normally not, as the discussion in the above section might suggest, functional descriptions (at least not of the kind we have been discussing). A classic example designed to mark the contrast between complete and incomplete descriptions is the following:

(44)a *The table* is large. → *incomplete description*

(44)b *The table over here* is large → *complete description*
(Sellars 1954:200)

This is not the same kind of (in)completeness as that of *the Chancellor (of Germany).* Or is it? – The reason why *the table* is "incomplete" by situation semantic standards is familiar: It does not single out an unambiguous table on its own unless it is relativised to a certain resource domain. But this is not quite what Sellars was thinking of when he "completed" the description *the table* in (44)b: For Sellars, an incomplete description such as *the table* becomes complete not by relativisation to a resource domain, but, rather, by expanding the nominal predicate until it unambiguously denotes an individual in an *absolute*, "world-wide" way. This is what Neale terms the "explicit" approach to incomplete descriptions, as opposed to the "implicit" approach that uses domain

restriction.[42] The explicit approach is also called "elliptical" because it considers utterances containing incomplete descriptions to be semantically elliptical for a more elaborate version, cf. (44)a vs. (44)b ("elliptical" is also the term Sellars used in his early discussion of the topic). The one weakness of the explicit approach is that it seems impossible to determine *which* elaboration would be the right one for a given incomplete description.[43] Suppose Jody utters (44)a, addressing Sally in her office, which contains one table. So Sally certainly has no difficulty understanding what Jody wants to convey and, according to the explicit approach, this is because a completing predicate picking out the table in question is somehow available. Perhaps the implicit component in Jody's utterance of (44)a was the predicate *over here*, as (44)b suggests. On the other hand, how does Sally know that Jody's utterance of (44)a was elliptical for (44)b, and not (44)c? or (44)d, or (44)e?

(44)c The table *beside the shelves* is large.

(44)d The table *I am nodding at* is large.

(44)e The table *in this room* is large.

The sceptical answer is that there is no way of knowing. But the fact remains that, given an appropriate context, (44)a can be used to make a wholly determinate and true statement. So something must be wrong with the explicit approach. To me this objection seems serious enough to prefer the implicit over the explicit approach. The implicit approach, i.e. situational referentialism, has no qualms about the choice of verbal alternatives: The only thing that needs to be done is fixing the right resource domain. It is telling that all of the completions (44)b to (44)e utilize features of the same resource situation which is definable by Jody and Sally talking in Jody's office during a certain time span. Many predicates accounted for by one resource situation – certainly a welcome result.

One might object that *the table* could just as well have been uttered with *which John bought on the 2nd of August, 1999* as a suitable restricting predicate. It does not refer to the same resource situation that the other expansions suggested in (44)b-e do. This raises the worry of how we can decide *which* is the right resource situation with respect to which the description is to be evaluated. Clearly, the resources exploited by *over here* and which *John bought on August 2nd, 1999* are distinct: One appeals to the perception of spatial relations in the context of utterance, the other to shared knowledge of past events, and there is no link of necessity between the two. However, in such cases I

[42] Neale presents these two approaches as ways of defending the quantificational analysis of definite descriptions against purely referentialist accounts. However, the theory of definite descriptions I adopt faces the same challenge as the quantificational theory, because unambiguity must be guaranteed somehow for the whole description to denote, although it is a background condition rather than part of the asserted content.

[43] This argument can be found in several places in the literature, e.g. Wettstein (1981:246ff.), Larson & Segal (1995:330ff.), Schiffer (1995:114f.).

consider it possible that speaker intentions are decisive. For the speaker may not be able to tell on demand whether, in uttering *the table*, she meant *the table over here*, or *the table beside the shelf*, or *the table I am nodding at*, but she would, without doubt, be able to tell whether she meant *the table over here* or *the table John bought on August 2nd, 1999*, precisely because speakers choose resource situations intentionally. (I suppose that the completion *which John bought on August 2nd, 1999* would only be taken into consideration in circumstances where the table is not visible, anyway, which would support Clark & Marshall's (1981) claim that physical co-presence is the most basic mode of givenness).[44]

It is time to return to functional descriptions. As we saw in (42), these too can be complete (*the chancellor of Germany*) or incomplete (*the chancellor*). And we would like to know now whether the notional explicit/implicit dichotomy is also applicable to them. The explicit approach to functional descriptions with implicit arguments would argue that the shorter forms are semantically elliptical for the longer ones, and that there is a constituent in the utterance meaning that the speaker could have made verbally explicit but didn't. The difference is now that while this constituent is a − possibly complex − predicate expression in the case of sortal descriptions, it has to be an individual-denoting expression in the case of functional descriptions. In saying *the chancellor*, one does not omit a conjoined predicate *which is so-and-so* but an individual-denoting expression, like *(of) Germany*[45]. Not surprisingly, the explicit approach finds itself in the familiar quandary of deciding on the term to pick here. This point is made by Wettstein (1981). He discusses the following variant of an example from Donnellan (1966), to be understood as a statement about the person who murdered Harry Smith, husband of Joan Smith and junior Senator from New Jersey:

(45) The murderer is insane.

Wettstein comments:

> "There will be any number of ways to fill out the description so as to yield a Russellian description (i.e. "Harry Smith's murderer", "the murderer of Joan Smith's husband", "the murderer of the junior Senator from New Jersey in 1975"), and, in many cases, nothing about the circumstances of utterance or the intentions of

[44] It is still conceivable that the hearer arrives at the correct referent using a resource-situation different from the one the speaker had intended. But this does not concern the semantics any more. A comparable case with deictically used pronouns might be one in which the speaker points to a person in the far corner of the room with her index finger and says *He is a spy*; at the same time she is moving her head in the opposite direction in order to drive away a fly buzzing around; the hearer, not perceiving the pointing gesture, instead sees the speaker's head-nodding in the opposite direction through a mirror which by chance is placed so that the mirrored nodding goes straight in the direction of the person who is a spy. Reference succeeds, even though the directing action intentionally used was not involved; but still it is uncontroversial that the nodding of the speaker's head is not relevant to the semantic-pragmatic analysis of the utterance *He is a spy* as described.

[45] I suppose that the preposition is there for syntactic reasons.

> the speaker which would indicate that any one of these Russellian descriptions is the correct one." (Wettstein 1981:250f)

Wettstein's own proposal is to incorporate a hidden demonstrative element in the analysis of (45).[46] As a result, "the description which applies to many items is used to make a determinate demonstrative reference to one particular thing" (ibid:251). Wettstein calls this an instance of "implicit reference". Does his solution therefore deserve to be called an implicit approach to incomplete (functional) descriptions? On the one hand, one can have doubts because what Wettstein writes could be read as arguing that *the murderer* is the form the speaker chose over the more elaborate *his murderer* (= "*the murderer of him*"), and this line of thought recalls the explicit approach as we first encountered it. On the other hand, the innovation of Wettstein's proposal lies in the idea that the problem of finding a suitable expansion of the incomplete description can be sidestepped by using a deictic expression, and the emphasis is not on the resulting *form* of the description but on how it is interpreted. Deictic pronouns like *his* in the case described are usually rendered as free variables at the level of logical form, and here we have the most obvious similarity to the implicit approach to incomplete sortal descriptions as exemplified above with *the table*: *the table* was said to include a free (resource) *situation* variable that needs to be filled in order that the whole description denote unambiguously. *the murderer*, according to Wettstein, includes a free *individual* variable that needs to be assigned a value to exactly the same effect. So I think Wettstein's proposal is in line with the implicit approach as applied to sortal descriptions, the only difference being that Wettstein actually posits hidden individual variables instead of hidden situation variables. A possible formalization of (45) on Wettstein's account would then be (45)F.

(45)F λs^t. insane $(f_{murderer}(y)(s^t))(s^t)$

The value of the variable *y* would have to be supplied by the context. Standing by the body of Harry Smith, there would be a strong bias towards assigning Smith to this free variable.

Now, Neale (1990:101) argues that enriching incomplete descriptions with unpronounced indexicals is a genuine strategy of the *ex*plicit approach. He asserts that Sellars' intention in presenting the examples (44)a-b might have been to demonstrate how incomplete descriptions can be completed, not by adding descriptive material but by implicitly referring to (spatial) coordinates of the context of utterance. However, Neale misreads Sellars here. Sellars sees *over here* in (44)b not as a referring term but as a description, and so *over here* must contribute descriptive material in some way. The following quote proves this:

[46] Note that this demonstrative constituent does not turn the resulting description into a "referential" one in Donnellan's (1966) sense. The point Wettstein makes pertains to both the referential and the attributive use equally. The referential element serves to determine the internal, not the external referent of the description.

> "For 'the table' is ambiguous not *qua* definite description, but *qua* ellipsis for an expression (also a definite description) which contains the egocentric term 'here'".
> (Sellars 1954:201)

It is the part in brackets that is decisive: *over here* is "also a definite description" like *the table* according to Sellars, not a referential item, even though it *contains* one.

Of course, Neale can still pursue his own elliptical theory of domain restriction, if he is right that expressions like *over here* or also *beside the shelf* are non-descriptive at least when used as in the expansions in (44). However, it is important to note that Neale assumes that, in cases of anaphorically used descriptions, the elided material can be purely descriptive. He gives the following example and comment:

(46) Three women and a man arrived in a large truck. The women got out and began dancing in the road while the man played the accordion.

> "In these cases, it is plausible to suppose […] that the descriptions in question are completed using material from the clause containing their antecedents." (Neale 1990:102)

So, according to Neale, *the man* in (46) has to be analysed as in (47):

(47) $[[\textit{the man}]]^{(46)} = \iota x.\ \text{man}(x) \,\&\, \text{arrived\_in\_large\_truck}(x)$

(When I superscript the meaning function with example numbers, I take the examples as standing for concrete historical utterances placed in contexts as described in the text, so that free variables receive their values accordingly.)
It follows that, on Neale's approach, nouns such as *table* or *woman* are ambiguous between a relational/functional and a sortal meaning: When they are used in deictic descriptions, as in (44)a, the nouns need to relate to an individual (like a location) by some means; since Neale has no theory of implicit domain restriction (i.e. resource domains), this must be stipulated as a peculiarity triggered in some way by deictic descriptions. Neale does not explain how this is supposed to work in any detail.[47] When nouns are used in anaphoric descriptions, as in (46), there is no such relational component but only set intersection. In order to escape the conclusion that nouns are ambiguous, Neale would either have to give up his referential analysis of expressions

[47] Lepore (2004:51) runs a similar argument against any approach that uses contextual domains to narrow down the restriction of a definite description. However, Lepore overstates the case in claiming that contextualists are forced to accept that sortal descriptions like *the table* are not two-ways but *infinitely* ambiguous because there are no limits on what kinds of relations can be used to narrow down the restriction: *the table of him*, *the table in this room*, *the table next to the shelf*, etc. Situational referentialism is not burdened with this problem, even though I think that no semantic approach to domain restriction should really be impressed by this argument: One can simply construe the relation in question as a free variable, the particular relation needed being determined in context; this is how e.g. Stanley (2002) proceeds.

like *over here* in the context of expanded definite descriptions, or assume that an indexical element is present in the case of anaphoric descriptions, as well. The latter path is the one we have chosen by obligatorily relativising sortal noun denotations to resource situations, no matter how they are given (linguistically or perceptually). So it looks like nothing is gained under Neale's approach.

3.5.5 Unifying the notion of incompleteness

We have seen that there are two kinds of incompleteness, and, thus, of context-dependence, of definite descriptions: Sortal descriptions need to be completed by giving a value to their domain variable; functional descriptions with an implicit argument need to be completed by giving a value to their free internal argument individual variable. The first process, affecting sortal descriptions, is captured by the conventional label "domain restriction". Domain restriction can be modelled in at least two ways: Intersection with another contextual set or relativisation of the explicit predicate to a situation. I have given reasons why I think that the latter option is preferable. – The second process, affecting incomplete functional descriptions, is not a case of domain restriction, but of contextually driven argument saturation. The terms "bridging cross-reference", "associative / indirect anaphora" and "inferable" are all labels for this process.[48] I pointed out that this process does not rely on the retrieval of a resource domain but of a suitable individual instead. I offered "incompleteness" as a cover term for both domain-restricted and unsaturated definite descriptions. Formally, a definite description is incomplete whenever there is a free variable inside the description. Next I will try to bring the two types of incompleteness even closer together, by showing that every case of incompleteness can be analysed in terms of resource situations.

Following a proposal by Evans (1977), Elbourne (2005) explores in detail the possibility that free pronouns are, semantically speaking, descriptions. If we want to apply this idea to functional descriptions with implicit arguments, we would have to revise structures of the sort given in (45)F so that we end up with a definite description in place of the free individual variable *y*. Elbourne, who is mainly concerned with donkey sentences, simply reconstructs the lacking predicate from the linguistic antecedent. For instance, (48)a below is analysed as being semantically equivalent with (48)b:

(48)a Every farmer who owns a donkey beats *it*.

(48)b Every farmer who owns a donkey beats *the donkey*.
((19) in Elbourne 2005:48)

[48] From now on, I will use the term "functional description with implicit argument" when focusing on the structure of the noun phrase in question, and "inferable" when its discourse properties are under consideration.

In (48)b, the situation parameter of *the donkey* can be relativised to minimal situations in which a farmer owns a donkey, yielding the intended interpretation on which every farmer beats his own donkey (with no need for descriptive expansions like *the donkey that he owns*). Elbourne calls this the "NP-deletion theory" because he assumes that personal pronouns are determiners followed by phonologically deleted nouns; for instance, (48)a is short for what looks more like *Every farmer who owns a donkey beats it donkey* at LF, but there is a surface rule preventing the noun following *it* from being pronounced. – Unfortunately, this strategy is not transferable to deictically used descriptions, as we saw: There is no linguistic antecedent to begin with, and choosing just any description that fits the referent turned out too arbitrary a practice. One description that will always fit, however, is that of being identical with oneself. So in order to reconstruct an unpronounced internal argument in the shape of a definite description, I propose we use the identity predicate $\lambda y.\ y = y$, which gives us the following rendering of *the murderer*:[49]

(49) $[[\textit{the murderer}]] = \lambda s^t.\ f_{murderer}(\iota y.\ (y = y)(s^r))(s^t)$

(49) exemplifies the general form I suggest for incomplete functional descriptions. It is equally applicable to anaphoric and deictic uses of definite descriptions according to our understanding of a resource situation.

The predicate $\lambda y.\ y = y$, i.e. being identical with oneself, is so general that it holds of all referents in a discourse situation. Therefore, if (49) is supposed to work, the salience sensitivity of *iota* must be called upon once again. In fact, the hypothesis that *iota* prefers asserted material over background information, from section 3.5.1, must be refined at this point: The identity predicate applies to all asserted material equally well, so nothing is gained by distinguishing foreground / assertion and background / presupposition. There are as many sets of things that are self-identical present in the discourse as there are referents. So, how does the embedded *iota* in structures like (49) know which such set is the most salient one? – Above all, it depends on the embedding functional noun. Every nominal function has a specific domain which sorts out certain referents as possible arguments and suppresses others. For an example, let us look at *the murderer* once again.

(50) Look here: Smith was brutally stabbed to death. *The murderer* is insane.

For (50), there is no problem because there is only one individual accessible by way of the preceding discourse, anyway: Smith. The only individual is automatically also the most salient individual, so that the internal argument of *the murderer* à la (49) will have

[49] My use of the identity predicate draws on von Heusinger (1997:161ff.), where this predicate is employed to reconstruct the reference of pronouns. They are rendered as $\varepsilon_i x\ [x = x]$, where ε_i stands for a choice function. The resulting term picks out the most salient (self-identical) individual in the context *i*. I do not make any claims about pronouns here, but it is interesting that the analysis suggested above assigns the same semanteme to *the murderer* as von Heusinger's analysis would to *his murderer* – recall that Wettstein (1981) proposed to analyse *the murderer* as short for *his murderer*.

to be identical with Smith. But now, instead of (50), the inspector could have uttered the following:

(51) Smith was brutally stabbed to death after he left his lawyer last night. *The murderer* is insane.

Again *the murderer* should refer to the murderer of Smith, but it is no longer trivial that the silent description $\iota y.\ (y = y)(s^r)$ will pick out Smith and not his lawyer. The point is now that the incomplete functional concept *murderer* triggers a searching procedure for a referent that can plausibly act as an internal argument − i.e., the patient of the act of murdering in this case. And the previous discourse does not make it hard to find such a referent: We know of Smith that he has been stabbed to death. This could not have happened without his being the victim of a murderer. So it is by virtue of the meaning of the embedding noun *murderer* that in the discourse in (51), Smith will be selected as the internal argument of the corresponding incomplete description − or, to be more precise, that that singleton set of self-identical individuals of which Smith is the only member will be selected.

Another example of a functional description whose unpronounced internal argument is made salient by the meaning of the function itself is the following:

(52) Jill leaned against an old oak tree. *The trunk* was rough.

Here we want *the trunk* to denote the trunk of the tree, not that of Jill. Again we get this result by assuming that the function denoted by *trunk* makes trees more salient than live human beings. In (52), the second possible internal argument for the trunk, namely Jill, is out due to the lexical meaning of the functional noun. In this sense, the example is slightly different from (51), where both individuals previously mentioned would be possible as far as their categorial properties are concerned. The property of being *partial* (i.e. having only a limited domain of application), shared by most functional predicates of natural language, can, thus, be useful information for matters of interpretation. In general, I suggest that the salience of the intended arguments in cases like (51) or (52) is produced by the automatic retrieval of general background knowledge which is connected to the functional concepts and which, in non-formal terms, has roughly the following shape:

(51)B An individual that is stabbed to death generally has exactly one murderer.

(52)B A tree generally has exactly one trunk.

These inferences can be assumed to be quickly and effortlessly available as soon as the corresponding concepts (*stab to death*, *tree*) are encountered, so that we can indeed say that the relation between murderers and persons stabbed to death, or between trunks and trees, is salient for the hearer. Whether these relations are actually provided by the lexical entries or rather by the encyclopaedic knowledge associated with them need not

concern us here. Taking up a term from cognitive linguistics, Löbner (2003) calls the structures that furnish inferences like (51)B/ (52)B "frames"; let us just assume that different long-term knowledge sources can contribute to the formation and retrieval of these frames.

However, it is not just static, frame-based information that makes certain referents more salient than others. In cases like (53) below, salience is not only produced by lexical semantics but also by discourse structure:

(53) Bill got into his car, and then Melinda got into her car, but *the engine* didn't start.

Here *the engine* could in principle have either Bill's car or Melinda's car as its internal argument as far as lexical meaning is concerned, but the fact that the latter referent is introduced in closer vicinity to the functional expression *engine* makes it much likelier that this is the intended internal argument. Hence recency of mention is also an important parameter in determining a salient entity.[50] And there are, no doubt, other semantic and pragmatic factors aside from the two just mentioned that play a role in determining salience, but I will not explore this issue any further here. What is important is the general conclusion that if we allow *iota* to be sensitive to salience, we can analyse functional descriptions containing implicit arguments with the help of resource situations.[51] From the identity predicate we can build a sortal description to take the internal argument place and the impoverished descriptive content then makes us turn to salience to sort out the right referent. This in turn allows us to unify the notion of "incompleteness" across definite description types, as follows:

(54) *Definition "incomplete definite description"*:

An incomplete definite description is a description employing a resource situation variable.

(54) implies that both sortal descriptions and functional descriptions with implicit arguments are always incomplete: Sortal descriptions require a resource situation to determine their external referent (there being no other), whereas functional descriptions with implicit arguments require a resource situation to determine their internal referent. Functional descriptions with explicit arguments may or may not need a resource situation, depending on the shape of their internal argument: In (55), the internal argument is a proper name, so there is no need for a resource situation anywhere; but in

[50] But recall that recency of mention is not always sufficient to establish salience in case there are competing predicates, cf. example (26) from section 3.5.1.

[51] Stating that *iota* is sensitive to salience is not the same as stating that choice is generally based on salience, as in the salience theory of definiteness. I do not assume that the term-operator actively *seeks* a salient individual due to its semantic specification; the idea is, rather, that *iota* may *respond* to salience orderings that are independently established in the discourse, so that less salient predicate tokens come to be disregarded. This might itself be a more general effect of language processing strategies, i.e. a non-semantic matter.

(56), the internal argument is a sortal description, and so a resource situation is again needed:

(55) The president of *the United States* is a responsible person.

(56) The president of *the country* is a responsible person.

But there is indisputably a price we have to pay for the unification of the notion of incompleteness, and that is the fairly roundabout way of dealing with functional descriptions with implicit arguments: Instead of directly providing these with an individual argument, we first look for a salient individual, then relate this to its corresponding singleton set, then transform the result back into an individual with the help of *iota* – and all this only to be able to render the internal argument of incomplete functional descriptions as a situation-dependent description. I should add that this device is not a crucial ingredient of my approach. In chapter 4, I will give an empirical justification for handling the matter the way I have just proposed, though. Readers who prefer another way of dealing with functional descriptions with implicit arguments and who do not care so much about a unified notion of incompleteness should not be deterred at this point.

One thing that I would insist on, however, is that the incompleteness of functional descriptions must be mirrored in their structural representation by way of a free variable. But even this assumption might be questioned. For instance, in (50), a proper name (*Smith*) represents the antecedent for the unpronounced internal argument of *the murderer*. So why not use this name (rendered as an individual constant, *sm*) as the internal argument, resulting in the form in (57) instead of that in (49)?

(57) $[[\textit{the murderer}]]^{(50)} = f_{\text{murderer}}(\text{sm})(\mathbf{s_t})$

(I write valued variables in boldface and with sub-scripts.)
Despite incompleteness, there are no free domain variables present in (57) – if one assumes, as I do, that proper names do not represent or contain free variables. So the claim that every incomplete description can (only) be analysed using free variables appears unwarranted. Then again, nothing forces us to assume (57) as the correct analysis. The occurrence of *the murderer* in (50) can still be analysed as in (49) because the predicate of being self-identical applies to any discourse referent, no matter how it is introduced. Moreover, there might be cases where the familiar problem of retrieving the correct antecedent might come up even with linguistic antecedents. Imagine that the inspector had been of a more verbose bent, and had uttered (58) instead of (50):

(58) The famous junior Senator from New Jersey in 1975, Sir Harry J. Smith, husband of Joan Smith, was brutally stabbed to death. The murderer is insane.

It is not clear to me whether an individual constant is the only possible choice with which to complete the description *the murderer* at logical form, or whether it would also be conceivable to take e.g. *the husband of Joan Smith* instead. The situation-referentialist analysis in (49) steers clear of this problem. I believe that it also preserves the spirit of Wettstein's (1981) proposal because it produces an unambiguous referent by way of an implicit referential component, even though reference is to a situation here rather thato an individual.

I conclude that even if it looks like a missing internal argument is determined by the shape of a manifest antecedent, it is wiser not to incorporate it into the semantics of the description, but to stick to the general form presented in (49) instead.

3.6 Summary and outlook: Towards a semantic typology of definite descriptions

In the foregoing sections, I laid out my view on the semantics of definite descriptions, based on an unambiguity-theoretic outlook. A central claim, inspired by Löbner (1985), was that the semantic structure of definite descriptions differs according to whether the head noun is sortal or functional. With sortal definite descriptions, unambiguity must be derived in a context-dependent manner. I chose situation semantics as a means to capture this context-dependence. With functional definite descriptions, unambiguity is guaranteed context-independently; however, the context may play a role in the determination of the internal referent − most notably if it is left implicit. I have furthermore suggested that the context-dependence of both sortal and incomplete functional descriptions can be modelled using resource situations. Let us try to summarize the central claims in a table:

(59) *semantic typology of definite descriptions*

description type	**denomination**	**form**	**resource situation involved?**	**unambiguity guaranteed by descriptive content?**
incomplete	sortal description	$\iota x.\ P(x)(s^r)$ (P a property)	yes	no
	incomplete functional description(inferable)	$\lambda s^t.\ f(\iota x.(\ x = x)(s^r))(s^t)$	yes	yes
complete	complete functional description	$\lambda s^t.\ f(a)(s^t)$ (a an individual)	no	yes

The table shows that incomplete functional descriptions take an intermediate position between the other two types: On the one hand, they involve a resource situation, like the sortal type; on the other hand, their descriptive content alone guarantees unambiguity,

like the complete functional type. On the right-hand side of the table I listed two criteria that will be important throughout the rest of the study. The role of resource situations has been sufficiently emphasized in working out the difference between sortal and functional descriptions; the question of whether unambiguity is implied by the descriptive condition will also play a significant role later on. While functional descriptions, complete or not, are always unambiguously-denoting thanks to the meaning of the head noun, sortal descriptions never are. Each description type can be identified through the specific appropriation of these two binary features.

The above typology is centred around the difference between topic situations and resource situations. These two situation types also map to two different ways in which variables can receive their value: They can either be bound by a situation variable abstractor, which is a way of coupling them with the verbal predicate and *its* situation parameter; or they can be instantiated by a salient value, provided by Heim & Kratzer's (1998:243) contextual assignment function g_c mentioned earlier. The intermediate category of functional descriptions with implicit arguments combines both of these options in a single complex structure.

The main purpose of the following two chapters is to provide an empirical underpinning for the typology proposed in (59). The most direct procedure I can think of is to present languages in which the assumed theoretical distinctions have a grammatical reflex. In the case at hand, we are looking for languages in which the determiner use is differentiated for complete and incomplete descriptions in ways suggested by the schema. Chapter 4 is about a language demarcating the two upper rows of table (59) against the lower one; and chapter 5 is about a language demarcating the upper row from the two lower ones.

After going through the data in chapters four and five, we will be ready to enrich the schema in (59) by one more row, occupied by the type of so-called *kind-denoting descriptions*. Those descriptions represent yet another way in which the situation parameter of a noun can contribute to the semantics of the resulting noun phrase: It is neither contextually instantiated nor set to the topic situation, but is, instead, abstracted over phrase-internally. The schema we will end up with is the following:

(60) *elaborated semantic typology of definite descriptions*

description type	**denomination**	**form**	**resource situation involved?**	**unambiguity guaranteed by descriptive content?**
incomplete	sortal description	$\iota x.\ P(x)(s^r)$ (P a property)	yes	no
	functional description w/ implicit argument	$\lambda s^t.\ f(\iota x.(\ x = x)(s^r))(s^t)$	yes	yes
complete	complete functional description	$\lambda s^t.\ f(a)(s^t)$ (a an individual)	no	yes
	kind-denoting description	$\lambda s'.\ \iota x.\ P(x)(s')$ (P a plural property)	no	no

In the next chapter, I will present Haitian Creole, a language in which the question "Is a resource situation involved or not?" is all-important for the use of the definite determiner. I will then contrast this language with Mauritian Creole (chapter 5), in which the question "Is unambiguity guaranteed by the descriptive content alone?" (= rightmost column in the above table) is also pertinent so that not every definite description involving a resource will end up definite-marked in Mauritian. In chapter 6 I will elaborate on the peculiarities of kind-denoting descriptions which I have only just introduced. Not only the creoles but also English will be of interest in this chapter. In chapter 7 I will synthesize the results by re-addressing the schema given in (60), and chapter 0 includes an extension towards the issue of domain selection in more general terms.

4. Definiteness marking in Haitian Creole

The purpose of the following sections is to show that Haitian Creole (HC from now on) is a natural language of a variety we would expect to find if the theoretical assumptions made in chapters 2 and 3 are correct. More particularly, I will try to show that, in HC, definiteness marking depends exclusively on the criterion "Is a resource situation required?". After some methodological preliminaries, I will give a short introduction to the language (4.2) and then proceed directly to the facts of nominal determination (4.3, 4.4). In section 4.5, the core piece of the chapter, I will apply the theory developed above to these facts. Section 4.6 contains ideas developed on the basis of nominal predicates that are here transferred to the verbal domain where the Haitian determiner can also appear. Finally, section 4.7 investigates the interplay between nominal determination and relative clause formation. It is at the same time a synthesis of the foregoing sections.

4.1 Methodological remarks

Since I am not a native speaker of the creole languages dealt with in this study, I had to rely on other people's judgements in collecting the relevant data. I used three types of sources:

- native-speaker informants. During my period of data collection, I had the opportunity to interview two native Haitian Creole speakers and two Mauritian Creole speakers. I usually first handed them questionnaires in French (all of the informants speak French fluently) and later discussed the translations with them face-to-face, also in French.

- data presented in published linguistic works on creoles: reference grammars, articles published in linguistic periodicals, etc.

- creole texts. The most easily accessible sort of written creole texts are traditional stories with an originally purely oral history. They constitute something like a literary genre of its own, called "contes créoles" in French. I avoided drawing from these works because they hardly ever contain information as to the date of origin or the author / teller of the story, nor any other philological details that would be of help in assessing grammatical peculiarities of the texts. In many a case the editors do not even find it necessary to mention *which* French-related creole the stories are written in. I have, therefore, found it more fruitful to exploit the opportunities of the internet to arrive at a more appropriate picture of present-day creole. There is a multitude of websites providing original creole material. Some of them are hosted by linguists or

linguistic organizations (most notably for French-related creoles, see the website of the "Groupe Européene de Recherches en Langues Créoles"[52] and its associated online journal "Creolica"[53]), others are simply sites maintained by and for creole speakers for all sorts of purposes. One valuable printed publication is the "Corpus Creole" (Ludwig et al. 2001), a collection of digitally recorded spoken creole with transcripts and translations in French.

Each one of these three types of data sources has advantages and disadvantages of its own, both in general and with respect to the phenomena dealt with in this dissertation. Overall, I think that they complement each other quite satisfactorily: Questioning informants makes grammaticality judgements directly available and is the most effective way to test a linguistic hypothesis made on theoretical grounds. This is also why the data from my work with the native speakers will be most important in what follows. Studying written texts is a more indirect way of arriving at statements about the grammar but it puts one in a position to trace the use of determiners in larger discourse structures. Data found in linguistic work on creoles is relatively easy to access, and there is a reasonable amount of work on determiners in creole. Unfortunately, examples are quite frequently presented out of context, and controlling for context turned out to be essential for the aims of this study.

On the whole, then, I hope that the synthesis of the data collected through the various channels just mentioned has led me to an appropriate and reliable view of the grammatical phenomena under consideration. Nevertheless I do not want to claim that mine is a theory which predicts the (un)grammaticality of every single authentic piece of data. In fact, it is questionable whether such a theory can be given for any one creole, as creoles are known to be subject to an even higher degree of variation than other languages. The issue of variation unsurprisingly has a firm place in contemporary creole studies; it is often discussed under the heading "creole continuum", a term that refers to the non-discrete ensemble of varieties of creole speech and grammar, ranging from the "basilect" (the variety farthest from the lexifier language) to the "acrolect" (the variety closest to the lexifier language). Furthermore, creole languages often co-exist not only with their lexifier language but also with an array of other languages, creoles or non-creoles, within a small area. This may naturally lead to all sorts of (regionally restricted) borrowing and incorporation of foreign elements, particularly if the languages in contact are structurally as similar as the creoles in the Caribbean area, or if the number of languages spoken is as high in proportion to the population as on the island of Mauritius. In addition, none of the creole-speaking areas has a considerable tradition of writing the language or a fixed orthography. The resulting absence of the normative pressures from written language also encourages the persistence of variation. (For further illustrations and discussion of variation in creole grammar, see de Rooij (1995)). And of course, creoles develop areal and social varieties like other languages do. As far

[52] http://creoles.free.fr/
[53] http://www.creolica.net/

as the data presented below are concerned, I will make a comment whenever there is inconsistent or inconclusive evidence. In case of doubt, I have given preference to my informants' judgements. Overall, I can say that I did not encounter critical incongruities in the course of the data collection. This might be due to the fact that the structures that I base my study on are relatively straightforward: Most examples include plain indicative predicate-argument sentences. What was more delicate than the structures as such was specifying the circumstances under which a given (nominal) form is appropriately used, and this could not have been done without the direct help of informants.

4.2 Haitian Creole, a French-related Creole

Haitian Creole belongs to the group of French-related creole languages. All of them were created through the contact of French colons with work-force brought to their settlements from other regions of the world between the late seventeenth and early nineteenth century. A creole can be called "French-related" if the majority of its lexicon is derived from French words and morphemes. In the case of Haitian Creole, for instance, it is estimated that about ninety percent of the lexicon originate from French. The fact that a lexical item is originally French does not, however, not mean that it was copied one-to-one into the creole, even aside from predictable processes of phonological assimilation. For one thing, what is a complete syntagma in French may become a single lexeme in the creole. Here is an example:

(1)	FRENCH	HAITIAN CREOLE	MAURITIAN CREOLE
	de l' eau	dlo	dilo
	of DEF water	water	water

The French form *de l'eau* is a complex noun phrase. It represents what is sometimes called a "pseudo-partitive", used to refer to an indefinite quantity of a mass-entity (as in *I drank some water*), and consists of the unmarked preposition *de* 'of', followed by the definite article (in (1) truncated to *l'*) and then the noun. In Haitian and Mauritian Creole this whole structure was protracted to one single lexical noun, *dlo* / *dilo*. Moreover, it frequently happens that words come to be classified as different parts of speech during creolization: Nouns may become verbs, and verbs may become nouns or prepositions (cf. Stein 1984:39ff.). And in what is even more pertinent to semantics, some researchers, most prominently Lefebvre (1998), assume that a vast amount of lexical items has been "relexified" during creolization. Relexification is a process in which the phonological shape of a lexeme is taken from one language (the "lexifier") and loaded with the syntactic and semantic features of another language. This is particularly relevant in the realm of function words, whose inventory may differ considerably across languages. Lefebvre's claim is, thus, that often when a morpheme of HC sounds as if it is originally French, its relationship with French is only a matter of

phonological appearance while its syntactic and semantic properties are congruent with its African ancestor language. For instance, HC has what Lefebvre (1998:213ff.) calls an "insistence marker": *non*. It is a clause-final item, homophonous with French *non* 'no'. French *non* can also be used in clause-final position when "the speaker is asking for the confirmation of the truth value of a proposition" (ibid:216). However, Lefebvre shows that the clause-final *non* of French exhibits syntactic and semantic restrictions that are absent in HC *non* – for instance, French *non* cannot accompany negated sentences, whereas HC *non* can. Lefebvre concludes that while French *non* overlaps with HC *non* in certain syntactico-semantic environments, the two forms are by no means synonymous. She furthermore argues that early Haitian speakers used French *non* as a phonological string with which to relabel the insistence marker found in their native languages (incidentally, the language in question is Fongbe, and the form is *ó*). The same process has taken place with a host of other lexical entries according to Lefebvre including markers of tense and mood, personal pronouns, negation markers and – not least – determiners. If relexification is a general process involved in creolization, then it is clear that the term "French-based" has a special meaning when applied to creole lexical items.

French-derived creoles can be divided into two major sub-classes based on their geographical distribution: the Atlantic Ocean group and the Indian Ocean group. Holm (1989:353ff.), on whose work these introductory remarks are based, presents fourteen creole varieties from the Atlantic Ocean group. They are mostly spoken on the Lesser Antillean islands (among them Martinique and Goudadeloupe) and Haiti as well as on the South American Mainland bordering the Atlantic Ocean (French Guyana). The Indian Ocean group is mainly represented in the islands of Réunion, Mauritius, the Seychelles, and Rodrigues.

Haitian Creole (HC) is one of the two official languages (besides French) of the country of Haiti, which covers the western part of the Caribbean island of Hispaniola. It is spoken by more than 8 million people on the island equalling 90 percent of the population. It was recognized as an official language of the state of Haiti in 1987. Only a minority of Haitians (no more than ten per cent) speak French, a fact which is historically related to the early withdrawal of the French from Haiti in 1804 when the country became independent and to the ensuing relative separation from the lexifier language. French remains the second official language to date, though only the socio-cultural elite actually has access to it. HC is at present the creole with the most speakers world-wide, which might be one reason why it is also one of the best-studied creoles, and, doubtless, the best-studied French-related creole. HC evolved in the interaction of French colonists and African slaves brought to the island between the middle of the seventeenth and eighteenth century when the sugar plantations were booming. According to Valdman (1978:286ff.), three dialectal varieties can be distinguished: northern, central, and southern.

Haitian word order is rigidly SVO, and the language is of the isolating type although a small number of derivational morphemes has been identified (cf. Lefebvre 1998:303ff.). Tense, mood and aspect are expressed through concatenable free-standing particles placed before the main verb. Fongbe, a West African language of the Kwa family spoken in Benin, is considered a major substrate language for HC ("substrate" is a term for the language(s) spoken by the politically and economically less dominant population in a contact situation, as opposed to the "superstrate" language(s) spoken by the superior group). The possible influences of substrate, superstrate or universal linguistic features on the grammatical make-up of the creoles will not be discussed in this dissertation (not even with regard to the determiners under consideration).

4.3 The noun phrase of Haitian Creole

Noun phrase structure in HC is somewhat peculiar: Some grammatical elements precede the noun, others follow it, and sometimes the noun remains completely undetermined. Below, I will give examples of all three cases. While the class of lexical elements that can precede the noun is open, that of elements following the noun is confined to the four formatives discussed below.

Grammatical elements preceding the noun

– Quantificational noun phrases:

pifò chen 'most dogs'
most dog

chak soulye wouj 'every red shoe'
every shoe red

tule tifi ak cheve long 'all girls with long hair'
all girl with hair long

– Numerals and vague cardinals:

de pòm 'two apples'
two apple

plizyè / anpil vwati 'several / many cars'
several many car

antre twa oubyen siz chemiz 'between three and six shirts'
between three or six shirt

We see that HC has no number marking on the noun. Also note that adjectives and other nominal modifiers follow the noun. There are a few exceptions however (e.g. *bèl* 'beautiful' or *gwo* 'big' precede the noun).

The indefinite article *yon* (*on* in some varieties) is derived from, but is not identical with, the numeral *youn* 'one':

– Indefinite article
yon tifi 'a girl'
INDF girl

Grammatical elements following the noun

Although HC is an otherwise typical SVO language, and grammatical elements are thus expected to precede the noun, there are also some items that follow it: possessive pronouns, the definite determiner, the definite-plural marker, and the demonstrative marker. This fact has caught the attention of syntacticians (cf. Lefebvre 1982, Lefebvre & Massam 1988, Lumsden 1989, Déprez 2007, Zribi-Hertz & Glaude 2007), all the more since it is a peculiarity of many French-related creoles.[54] Here are some HC examples:

– Possessive pronouns:
papa mwen /ou / li / nu / yo
father my your his, her, its our, your their

'my / your / his, her / our, your / their father'

There is no gender distinction in the HC pronoun system. The forms *mwen* 'my' and *li* 'his, her, its' can be truncated to *m* and *l* after vocals: *papa m* and *papa l* are also possible.

– Definite singular determiner:

tig *la*
tiger DEF 'the tiger'

vil fwansèz *la*
town French DEF 'the French town'

[54] Déprez (to appear) compares ten different French-related creoles, of which only Reúnion Creole, St. Thomas Creole and Mesolectal Louisiana Creole show pre-nominal definite determiners; the latter two languages apparently allow post-nominal determiners, too.

pyebwa kote Pòl *la*
tree next-to Paul DEF 'the tree next to Paul'

A terminological remark: I will not use the word "article" for the HC definite determiner, because it might turn out that this term is more appropriate for languages in which the definiteness marker is obligatory even in environments where it is, semantically speaking, redundant, such as complete functional descriptions. The HC determiner *la* is not used in these environments.[55] At any rate, the choice is really only terminological and I attach no greater significance to it. I will, moreover, often use the word "determiner" elliptically for "definite determiner"; I expect no confusion to arise from this.

What is more important is that the HC determiner really *is* a syntactic determiner, and not a modifier.[56] If it were a modifier, we could not explain the fact that it is in a structurally fixed position at the edge of the noun phrase. Views differ as to why HC *la* is post-nominal instead of pre-nominal. Some think that *la* has evolved from the French deictic reinforcer *–là*, which also appears post-nominally: *ce bateau-là* 'that boat (over there)'. Others point to the closeness of HC *la* and the Fongbe definite marker *ɔ́*, which is also phrase-final. In my opinion, the problem of the origin of HC *la* cannot be settled on the basis of the data presently available in the literature, in particular with a view to the unexplored semantics of Fongbe *ɔ́*. Quite apart from this worry, my study has a strictly synchronic orientation. My aim is to be able to give an answer to the question "What does a child with HC as a first language have to learn when he or she acquires the correct use of the determiner?". I do not want to question the idea that a diachronic outlook may be of help in such an undertaking – if enough reliable data are available –, but I do doubt that arguments from diachrony can be *decisive* at any point.

The HC determiner has four phonological variants: Besides *la* [la], there are the forms *nan* [nã][57], *a* [a], and *an* [ã]. Their distribution is conditioned by the shape of the final sound before the determiner:

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[55] Calling HC *yon* an indefinite article is in line with my terminological choice about "article"-hood, because *yon* can be inserted in environments where it is arguably semantically inert, such as generic quantification:

(i) Yon bon jwè foutbòl dwe kap jwe kolektif.
INDF good player football must can play together (H.I.48.)

'A good football player must be a teamworker.'

[56] Some languages, like e.g. Catalan or Maori, have demonstrative items that are arguably adjectival in nature, cf. Lyons (1999:119f.).

[57] According to Damoiseau (2005:35), *nan* ([nã]) has a variant pronounced *lan* ([lã]).

(2) nèg *la* 'the man'
[− nasal consonant ending]

fanm *nan* 'the woman'
[+ nasal consonant ending]

tifi *a* 'the girl'
[− nasal vowel ending]

gason *an* 'the boy'
[+ nasal vowel ending]

In the face of this non-semantic complication, I will use the sign *la* in the metalanguage as standing in for any one of those individual forms of the object-language.[58] The phonological variability moreover distinguishes the determiner *la* from the homonymous HC locative deictic form *la*, which is unchanging:

(3)a Nèg la la.
man DEF there 'The man is there'.

(3)b Fanm nan la.
woman DEF there 'The woman is there'.

(3)c Tifi a la.
girl DEF there 'The girl is there'.

(3)d Gason an la.
boy DEF there 'The boy is there'.

− Definite plural determiner:

When HC sortal definite descriptions are in the plural, the form *yo* (homonymous with the third person plural pronoun *yo* 'they', 'their') replaces *la*:

(4) tig la (singular)
tiger DEF 'the tiger'

tig yo (plural)
tiger PL 'the tigers'

In the northern Haitian dialect, speakers use the form *layo* instead of *yo*. My informants only produced *yo*, never *layo*. Both forms unambiguously signal definiteness; they cannot be used to express an *in*definite plural. Zribi-Hertz & Glaude (2007) propose that

[58] C. Hazaël-Massieux (2005:38) reports that present-day HC exhibits a beginning tendency to simplify the phonology of the definite determiner in favour of a single form [lã].

the *yo*-plural always has an unpronounced *la* in its scope, which explains why *yo*-determined noun phrases are always definite.

Semantically, the distribution HC *la* / *yo* is more restricted than that of the English definite determiner. The bulk of this chapter is dedicated to an investigation into the precise conditions of use of the HC determiner. However, I would like to make it clear at this point that what follows is not an exhaustive description / analysis of that form. There are several areas in which the determiner is used in HC which I will not discuss at all, or only touch upon, like the use of the determiner with temporal and spatial specifiers or its emphatic use. My investigations are for the most part confined to referential, individual-level noun phrases (kinds will be discussed separately in chapter 6).

– Demonstrative determiner:

(5) liv sa a
book DEM DEF – 'that book'

chwal sa yo
horse DEM PL – 'those horses'

moun ke m konnen sa a
man REL I know DEM DEF – 'that man whom I know'

We see that the demonstrative *sa* is always accompanied by the definite determiner (singular or plural).[59] This is unlike in English, where **that the book* is not a well-formed string.

Bare nominals

Quite frequently, HC argumental noun phrases do not have a determiner at all. Their distribution is comparable to that of bare plurals in English, i.e. HC bare nominals can appear in either indefinite-existential contexts (6), or in indefinite-generic contexts (7), or they can refer to kind-entities (8).

(6) Jan vle rankontre avek *dokte*.
J want meet with doctor ((4b) in Déprez 2005:860)

'John wants to meet doctors.'

(7) *Chen* se bet ki jape.
dog COP animal REL bark ((19b) in Déprez 2005:863)

[59] *sa* has a variant *sila*, which my informants did not produce.

'Dogs are animals that bark.'

(8) *Elefan* ap vin ra.
elephant IPFV become rare ((1d) in Déprez 2005:859)

'Elephants are becoming rare.'

I will come back to bare nominals in chapter 6, where the relationship between the above readings will also be discussed. The rest of chapter four will be exclusively about definite descriptions.

4.4 Data: Two sorts of definite descriptions

The HC examples of definite descriptions given so far are all made up of a nominal core and a determiner. The most salient surface difference with regard to the English renderings is surely the reversed noun-determiner order. The following examples show however that this is not the only way in which HC definite descriptions can differ from English ones:

(9)

HAITIAN CREOLE:	ENGLISH:
papa Mari	the father of Mary
tay Pyé	the height of Peter
plafon chanm mwen	the ceiling of my room
klas Mesye Dupont	the class of Mr Dupont

We see that the HC definite descriptions in (9) do not have a determiner at all. What I would like to claim is that the choice "determiner / no determiner" in HC is coupled with the semantics of the description's head noun. The *la*-including examples in (2) all have sortal head nouns: *girl*, *boy*, *man*, *woman*, *tiger(s)*. The examples in (9) with*out* the determiner all have functional head nouns: *father*, *height*, *ceiling*, *class*. So there emerges the generalization that sortal descriptions require the definite determiner in HC, whereas functional descriptions appear bare.

Before I go into the details of this proposal, a remark of clarification about the English descriptions is in order. In agreement with a decision made in chapter 2, I wrote *the father of Mary* instead of the grammatically more appropriate *Mary's father* in (9). Likewise, I wrote *the height of Peter* instead of *Peter's height* and *the class of Mr Dupont* instead of *Mr Dupont's class*. The preferable English possessive structures, called "Saxon genitives", do not have a definite article any more, even though, semantically, they are definite descriptions. In English, there is a syntactic regularity

obliterating the definite article when possessors are preposed. In HC, possessor preposing is impossible:

(10) *Mary papa 'Mary's father'
M father

*Pyé tay 'Peter's height'
P height

It seems reasonable to suppose that this construction is impossible in HC because it necessitates an overt case marker on the possessor, and HC has no overt case marking system. But the point I want to make lies elsewhere: According to most syntactic theories of possessive phrases since Abney (1987), the definite article is absent in possessives because the only position where it could be inserted, namely D^0, the head of the determiner phrase, is occupied by a genitive case marker – be it the "*'s*" on the preposed noun phrase or some abstract formative. Therefore, the following are totally ungrammatical in English:

(11) *Mary's the father
*Peter's the height

Now, the same syntactic argument could in principle also apply to the HC examples in (9). On the one hand, the possessor comes after the head noun in those cases but, then, the HC definite determiner also occurs. Hence, it could be argued that an unpronounced genitive case marker following the embedded nominal is what really prevents the determiner from appearing in the HC examples in (9), not the semantics of the head noun. Given that the determiner is head-final in HC, it would be plausible to assume that the invisible genitive case marker is head-final as well, thus blocking the determiner. Or it might be that the complement nominal can only be assigned case by a special null determiner, which would also prevent *la* from appearing. This is in fact what Lumsden (1989) argues for, again on the basis of Abney (1987).

If this syntactic line of reasoning were correct, we would expect that the blocking of the determiner in genitive constructions is obligatory. But in fact, it is not:

(12)

HAITIAN CREOLE:	ENGLISH:
a) frè Alsi a brother Alsi DEF	(*the) Alsi's (*the) brother
b) desizyon Mari a decision Mary DEF	(*the) Mary's (*the) decision
c) jou Jan an day John DEF	(*the) John's (*the) day

d) zanmi m nan — (*the) my (*the) friend
friend my DEF

e) sourit papa m nan — (*the) my father's (*the) mouse
mouse father my DEF

Again we have expressions that represent regular Saxon genitives in English, but now the HC versions *do* have the determiner where it is impossible in English. This cannot be solely due to the possessor here, because neither proper names (12) nor possessive pronouns (12) nor genuine functional descriptions (12) take the determiner, so *la* must determine the whole noun phrase in all of the above. That is to say, the structure of the examples in (12) must be:

[[NP_1 NP_2] DET]

and not

[NP_1 [NP_2 DET]].

If the sequence "external referent – internal referent" (e.g. *frè Alsi*) in HC were just the mirror image of the Saxon genitive "internal referent – external referent" (e.g. *Alsi's brother*) of English, there could be no determiner in the HC cases. That there is one makes a syntactic analysis seem unworkable to me. On the semantic side, note that all the examples in (12) contain instances of either relational ('friend', 'brother', 'decision') or sortal head nouns ('mouse', 'day'), not of functional ones. I take it that this, an essentially semantic differentiation, is outside the realm of syntactic explanation. So the hypothesis that the restrictions concerning the appearance of HC *la* are determined by the semantics of the description's head noun is clearly preferable. Let us thus record the following preliminary generalization:

(13) *Determiner use in Haitian Creole*:

In Haitian Creole, the definite determiner *la* can only combine directly with sortal or relational nouns; it cannot combine directly with functional nouns.

The qualification "directly" in this statement is very important. To see why, consider the following, well-formed HC noun phrases:

(14) papa nèg la — 'the father of the man'
father man DEF

men tifi yo — 'the hands of the girls'
hand girl PL

Here we have both functional head nouns (*papa*, *men*) and the determiner in a single nominal complex. However, the determiners in these noun phrases belong to the

arguments of the functional expressions, not to the functional nouns themselves. That is, unlike what we had in (12), the structures in (14) are the following:

(15) [$_{NP1}$ papa [$_{NP2}$ nèg la]]
[$_{NP1}$ men [$_{NP2}$ tifi yo]]

Since the internal arguments here are sortal descriptions (*nèg la* 'the man', *tifi yo* 'the girls'), (13) is not invalidated by these data.

Further evidence in support of (13) comes from the fact that iterated functional descriptions employ only one phrase-final *la* in HC, which is expected under the present approach: A chain of functions of arbitrary length will always be rooted in a single argument (cf. Löbner 2003:9f.), represented here by a sortal description. Thus:

(16) koulè pot kay la 'the colour of the door of the house'
colour door house DEF

of which the functional structure is [$_{NP1}$ *koulè* [$_{NP2}$ *pot* [$_{NP3}$ *kay la*]]]; only the final description takes the determiner, it being the only sortal description around.

Another example of this sort, from the Haitian Constitution, is:

(17) *Koulè drapo peyi d Ayiti*, se ble e wouj.
colour flag country-of-Haiti COP blue and red
(*Konstitisyon Repiblik d'Ayiti*: chapit 1, nimewo 2)

'*The colours of the flag of the country of Haiti* are blue and red."

The structure of the italicized noun phrase is: [$_{NP1}$ *koulè* [$_{NP2}$ *drapo* [$_{NP3}$ *peyi d Ayiti*]]]. There is no determiner in this phrase at all because the final argument is a proper name, which does not need a determiner in HC.

Next I will try to give the generalization in (13) a theoretical foundation using the insights from chapters 2 and 3.

4.5 Determiner choice and resource situations in Haitian Creole

The hypothesis to be explored in the following sections is that HC can only use the definite determiner in descriptions involving a resource situation. The fact that the HC examples of sortal descriptions given above are all *la*-determined whereas the functional ones aren't would then be merely a consequence of the specific ways in which these noun types interact with situation parameters. I will now go through the definite

description types established above and examine their shape in HC, starting with mutual knowledge-based descriptions and then continuing with the functional types.

4.5.1 Mutual knowledge-based descriptions

In section 3.5.1 I laid out how Clark & Marshall (1981) re-work ideas from Hawkins (1978) into a classification of "mutual knowledge" according to its sources. In view of the fact that resource situations are the basic units of mutual knowledge in situation semantics, I related Clark & Marshall's concept of mutual knowledge to the concept of resource situations. Accordingly, resource situations were classified into three major types:

a) resource situations made available by shared knowledge acquired at an earlier time before the present discourse ("community membership")

b) resource situations made available by the immediate shared perceptual environment ("physical co-presence")

c) resource situations made available by the previous discourse ("linguistic co-presence")

If it is true that HC *la* marks resource situations, we expect to find it with all descriptions typifying any of these three modes of mutual knowledge. I will now give examples showing that this prediction is indeed borne out.

4.5.1.1 Community membership

Recall from section 3.3.2 that Clark & Marshall count any case of definite reference made against the background of the interlocutors' sharing some cultural or linguistic community to be an instance of the "community membership" referring scheme. I listed a few examples given by Clark & Marshall there. When we try to assess the extension of the category in more detail, it turns out that we need to make a distinction between cases where the overall referent of the noun phrase is retrievable by the addressee thanks to mutual community membership, and cases where only the internal referent is so retrievable. Clark & Marshall call the former case "direct co-presence", and the latter "indirect co-presence". Understanding an utterance about George Washington presupposes knowing who the referent of the name *George Washington* is. Regardless of how the "knowing who" part may be spelled out theoretically, it is plausible to assume that this knowledge is supplied (albeit not exclusively, of course) from one's being part of the community of educated Americans. On the other hand, a conversation between Stanford University members can contain references to *the rector* because both interlocutors are aware of the fact that they are Stanford University members, *but* this

does not imply that both of them need to know who the rector is. This is why it is possible for a Stanford freshman to ask an older colleague:

(18) Can you tell me who *the rector* is at present?

The definite *the rector* denotes successfully here if a) speaker and hearer mutually recognize that the other is a Stanford member (and that this is presently relevant), which allows the completion of the functional noun *president* with a suitable internal argument, and b) speaker and hearer know that American universities generally have an unambiguous rector. Knowledge of the identity of the rector is not a necessary ingredient of Stanford community membership as far as (18) goes. Consequently, community membership *is* relevant to the interpretation of *the rector* in (18), but only indirectly, in fixing the unarticulated internal referent of the functional expression. I would like to except functional descriptions from the class of proper "community membership" definites precisely because their definiteness is grounded in a principle which works independently of previous shared knowledge, as we saw. I will deal with functional descriptions with implicit arguments separately in section 4.5.3. This leaves us with proper names and sortal descriptions in the class of genuine "community membership"-based definites.

Proper names do not have the determiner in HC (nor in Mauritian Creole). I put this down to the special mode of reference that proper names instantiate. More precisely, I assume that proper names do not derive their reference from a predicate that could provide a resource situation but, instead, are devices of rigid reference, devoid of mediating sense (cf. Kripke 1972).[60] Since my assumption has it that it is predicates that introduce situation variables into the semantics, there can be no situation parameter attached to proper names. And since I am furthermore arguing that the HC determiner serves to express unambiguity *with respect to a resource situation*, there can be no determiner with proper names in HC, regardless of whether knowledge of the referent is supplied by a certain linguistic community or not.

Examples of genuine community membership-based sortal descriptions are not easy to find. As a matter of fact, all of the examples that Clark & Marshall give are either proper names or what I would re-classify as functional descriptions with implicit arguments (such as *the president* or *the library*). Hawkins (1978) has the category "larger situation use" for definites, which corresponds roughly to Clark & Marshall's "community membership" definites, and he presents *the Little Mermaid* (a statue in the city of Copenhagen) as an instance of a definite description based on shared knowledge without a generic basis (i.e. not derived via functional relations specified in the lexicon). Fraurud (1990) criticizes this classification on the grounds that *the Little Mermaid* is

[60] This does not mean that all noun phrases including proper names are non-descriptive, cf. the varieties of "secondary uses" of proper names presented in von Heusinger & Wespel (2007).

really a proper name. True, it does have a definite article and a predicative core, but is either of these semantically relevant? With Fraurud, I doubt it.

There remain two sorts of examples I can think of in which "community membership"-based sortal definite descriptions might be involved. As it happens, the two are located on the extreme ends of the spectrum: One is such that the community is extremely reduced so that only persons who witnessed or participated in a particular event or discourse count as members. The other is such that the community is extremely inclusive, so that every speaker of the same language counts as a member. The first, minimalist option is instantiated by what Himmelmann (1996:61) calls the "anamnestic" or "recognitional"[61] use of noun phrases: "The speaker reminds the hearer of specific shared knowledge". Examples are somewhat difficult to discover or construct, given the necessary dissociation of the present discourse from the event / discourse with respect to which the noun phrase in question must be interpreted. Himmelmann notes that it is typically demonstrative expressions that are used recognitionally, and he contends that the recognitional use is an important step in the development of definite articles out of demonstrative determiners. This raises the question of whether we can hope to find any *la*-determined noun phrases in recognitional use at all, or whether this is not, rather, the domain of descriptions determined by *sa*, the proper HC demonstrative determiner, anyway. Interestingly, Fournier (1977) proposes that HC *la* is a marker of the semantic feature [+discourse] (for 'discourse-linked') and makes a three-way distinction of contexts in which HC *la* can be used; this distinction mirrors the present one very closely: Fournier calls the first context "co-reference" (ibid:71) – which equals Clark & Marshall's "linguistic co-presence" –, the second "reference to the situational context" (ibid:76) – cf. "physical co-presence", and the third one he characterizes as follows:

> "A N[oun] will be marked +*discourse* if it refers to an 'object' or a situation which is identifiable and implicitly known by all members of the [discourse] interaction. In that case, the information contained in *N la* must reflect knowledge of a situation or an experience shared by all individuals of the same universe [of discourse participants, J.W.]. Consequently, the speaker does not have to locate the 'object' in the discourse first, knowing already (or at least presuming) that all the addressees could refer to it, without ambiguity." (Fournier 1977:79)

> ("Un *N* sera marqué +*discours* s'il fait reference à un 'objet' ou une situation identifiable et connue implicitement par tous les membres où se produit l'interaction. Dans ce cas, l'information contenu dans *N la* doit refléter la connaissance d'une situation ou d'une expérience que se partagent des individus appartenant à un meme univers. Par consequent, le locuteur n'a pas a situer préalablement l''objet' dans le discourse sachant déjà (ou au moins présumant) que tout l'auditoire pourra y référer sans équivoque.")

[61] Himmelmann writes in German and points out that 'recognitional' is the most appropriate English rendering of the German adjective *anamnestisch*.

I think that this is a fairly precise statement of what the "recognitional" use of noun phrases is about. Fournier then goes on to give the following example of a recognitionally used noun phrase determined by *la*:

(19) [The speaker is playing a joke on one of his friends, telling him that he (his friend) could find out the winning number of the next lottery in advance if he followed certain instructions, which included going to the cemetery at night dressed up as "Baron Samedi", a West-African Voodoo god. The speaker says:]

Ou pral fè baron samdi. M ap pare devan *kwa a* […].
you PRSP make b. s. I IPFV appear before cross DEF
(Fournier 1977:79)

'You will disguise as Baron Samedi. I will appear in front of *the cross* […].'

The author comments that although *kwa a* 'the cross' is mentioned for the first time in the discourse, the hearer has no problems identifying the referent, since it is clear that *kwa a* refers to the (single most salient) cross on the cemetery in question, known to both speaker and hearer.

Fournier is the only author I am aware of who brings up the "recognitional" use of HC *la*. All other discussions of the subject are confined to deictic and anaphoric uses of *la* (the latter almost always confined to direct anaphora). The general neglect of the recognitional use of *la* might be due to the fact that the descriptions in questions are more often expressed with the help of demonstratives, as noted by Himmelmann. A simple nominal in recognitional use, as in (19), is hard to find in natural occurrence because it presupposes a very narrow context and close familiarity among the speech participants. Himmelmann (1996:77ff.) points to another natural form in which recognitional definite descriptions come up in natural language, namely with a subsequent explanatory modifier, as in *the dog that bit Paul's wife last Saturday*, or *the taxi that you had ordered to get to the train station* (cf. Himmelmann 1996:72ff.). These relative clauses are supposed to lead the addressee to the intended referent by means of describing a particular resource within which to locate the referent. Such extended noun phrases do in fact take the determiner in HC:

(20) *Anana a Pòl pote a* se bèl.
pineapple DEF P bring DEF COP nice (E.F. 88.b.)

'*The pineapple that Paul brought* is nice.'

This sentence contains not one, but two occurrences of *la*: directly after the head noun, and after the relative clause. I will elaborate on this phenomenon in section 4.7. For now it is enough to note that the head noun *anana* ('pineapple') is *la*-determined, although it

is conceivable that the pineapple in question has not been introduced in the current discourse yet. (20) can be uttered out of the blue a day after Paul has visited and brought a nice pineapple, for instance. This confirms the hypothesis that recognitionally-used definite descriptions take the determiner in HC.

The opposite type of community-based sortal descriptions I hinted at is the one where the community is maximal: A hearer can interpret the noun phrase by virtue of speaking the language in question. This presupposes that there is no more than one single object satisfying the description, world-wide and, thus, no explanatory modifier will ever be necessary. Examples would be *the sun*, *the moon*, *the sky*. Such noun phrases are also *la*-determined:

(21) *Tè a* ap tounen bò kote *solèy la.*
earth DEF IPFV turn next-to sun DEF (E.F.62.)

'*The earth* revolves around *the sun*.'

(22) *Solèy la* cho, mwa a pa bon.
sun DEF hot, month DEF not good. (Fattier 2006:37)

'*The sun* is hot, this month is not a good one.'

(23) Epi lòt bagay ke ou bezwen sonje se ke *syèl la* pa pou
also other thing that you must consider is that sky DEF not for

on ti peyi […].
INDF small country (Ludwig et al. 2001:178)

'What you also have to take into consideration is that *the sky* does not belong to any one small country […].'

(24) Men nou aprann kè gen on seri DE[62] kò an voyaj nan *kosmos la.*
but we learn that have INDF series of body in journey in cosmos DET
(Ludwig et al. 2001:182)

'But we have learnt that there is a number of bodies floating through *the cosmos*.'

If we accept entities like the sun as objects of maximal "community membership knowledge", we have an explanation of why the HC expressions for them are equipped with the determiner.

[62] In the extracts from Ludwig et al. (2001), words in capitals represent direct borrowings from French. In this case, the speaker employs the French preposition *de* 'of' to connect the two nouns *seri* and *kò*. The "normal" HC structure would simply be *seri kò*, without a linking element.

4.5.1.2 Physical co-presence (deictically used definite descriptions)

Deictically used definite descriptions also take the determiner in HC. Here are two examples:

(25) [speaker points at a dog approaching the addressee:]
Fè atansyon ak *chen an*! – Li mechan.
make attention at dog DEF he vicious (H.I.5.a.)

'Beware of *the dog*! He is vicious.'

(26) [speaker and hearer taking a walk alongside a dried-up river:]
Rivyè a chèch nèt wi!
river DEF dry totally yes (Fattier 2006:34)

'*The river* is totally dried up.'

The resource situations employed here are anchored in immediate perception. In many a case, the resource situation variable of deictically used definite descriptions is identified with the topic situation. I will use (26) to exemplify this. Let's call the situation with respect to which (26) is uttered "Walking". Interpretation starts from the following sentence form:

(26)F λs^t. dried-up(ιx. river(x)(s^r))(s^t)

Once it is clear that *the river* is supposed to be interpreted with respect to the physical context, i.e. to "Walking" (symbolized $\mathbf{s_w}$), (26)F turns into (26)F':

(26)F' λs^t. dried-up(ιx. river(x)($\mathbf{s_w}$))(s^t)

The instantiation of the topic situation variable yields $\mathbf{s_w}$, too, so that the final utterance interpretation is (26)F'':

(26)F'' dried-up(ιx. river(x)($\mathbf{s_w}$))($\mathbf{s_w}$)

We end up with a form in which the resource situation is the same as the topic situation. The result superficially resembles what we have in the case of functional descriptions, where I also proposed that the two sorts of situations can end up being identified. It is important to note, however, that although the nominal and verbal situation parameters are the same in (26)F'', this result has been derived in a completely different way from what we get when functional descriptions are composed. Functional descriptions are *pre-determined* to have their resource situation parameter set to an internal situation (the topic situation or situation of utterance), whereas the situation variable of the description in (26) (or (25), for that matter) merely *turns out* to be identical with the topic situation. There is nothing in the deictic description itself that forces it to be interpreted with respect to that situation. For instance, imagine that the speaker had uttered (27) instead of (26) during the walk. Then *the river* would still have to be

interpreted with respect to the resource "Walking", but the topic situation is no longer "Walking", but a temporally and spatially remote situation:

(27) Last year around that time I took a walk only a few miles up from here, and *the river* was in spate.

So it is very important to discern the difference between *a priori* and *a posteriori* cases of identification of resource and topic situation. The reason why this identification takes place so frequently with deictic descriptions is that when people pick out a referent present in the surrounding physical situation, they often wish to talk about the referent *in* that very same situation, too.

The observation that *la* can be used when things are pointed at has inspired some researchers to call *la* a "deictic determiner" in a more general sense (Lefebvre 1982 / 1998, Zribi-Hertz & Glaude 2007). I chose to refrain from this terminology because it would create confusion once we want to distinguish between different types of mutual knowledge-based descriptions, of which "deixis" is merely a sub-type. With Hawkins and Clark & Marshall, I call a description "deictic" if it is used in a particular way, i.e. in order to direct the hearer to objects present in or accessible from the physical context of utterance.

4.5.1.3 Linguistic co-presence (anaphorically used definite descriptions)

Linguistic co-presence (having been mentioned in the previous discourse) is what licenses anaphora. I will only consider instances of "direct linguistic co-presence" in this sub-section; the so-called "inferables" (or indirect anaphora) will be discussed separately in section 4.5.3. Here are some HC examples of direct anaphora:

(28) Yon fanm ak yon ti gason antre. *Fanm la* te pote yon kòbèy flè.
INDF woman and INDF DIM boy enter woman DEF PST carry INDF basket flower
(E.F.15.a.)

'A woman and a boy entered. *The woman* was holding a basket of flowers.'

(29) Yon ti fi ak yon ti gason t ap mache byen lwen katye yo.
INDF DIM girl and INDF DIM boy PAST IPFV walk very far area POSS.3.PL

De ti moun yo travèse yon chan zèb kote yo wè yon bèl pye pòm
two DIM person PL go-by INDF field grass where they see INDF nice tree apple
(E.F.5./6.)

'A girl and a boy were strolling away from their home. *The two children* came by a meadow on which they saw a nice apple-tree.'

(30) Mwen mete sik nan te mwen an. *Sik la* fe *te a* pi dou.
I take sugar in tea my DEF sugar DEF make tea DEF more sweet
(E.F.21.)
'I took sugar in my tea. *The sugar* made *the tea* taste sweeter.'

In these examples, the first sentences refer to situations which are such that they contain an unambiguous individual satisfying the descriptive content of the definite description in the continuations. When processing those descriptions, the hearer must hark back to those situations in order to resolve the unambiguity condition. Thus, knowledge of the linguistic context is necessary to interpret *famn nan* in (28). Example (29) is similar, except that the anaphoric expression is the product of "summation" in the sense of Kamp & Reyle (1993:306ff.): It merges the freshly introduced referents, the boy and the girl, into one plurality of children of the cardinality 2. This does not cause any problems given that the situation referred to in the first sentence contains an unambiguous (qua maximality) set of two individuals who can be described as children, given that both being a boy and being a girl implies being a child. The fact that a plurality is referred to necessitates the plural determiner *yo*. Of course, the numeral *de* 'two' could have been omitted: *ti moun yo* would have been equally possible. Example (30) shows that definite descriptions built from mass nouns, quite predictably, take the determiner in the singular. Moreover, (30) includes an "extrinsic possessive" in the sense of Barker (2000): Since the intended reading is episodic[63], *te a* 'my tea' cannot mean 'the type of tea that I habitually drink' or anything of the like, but must refer to a specific occasion of tea-drinking. Therefore, the context preceding (30), not included here, must contain the description of a situation establishing a specific relation between the speaker and "her" tea.

Kihm (2003a) proposes that HC *la* is a marker of anaphoricity and that HC is a language that has developed a special syntactic projection (the "Anaphoric Phrase") in whose head *la* is located. While the motivation behind this move (separating familiarity from uniqueness) can only be applauded, "anaphoricity", like "deixis", is not quite the right term to use, since deictic and recognitional descriptions are *la*-marked, too. So if we were asked to give the putative syntactic projection hosting *la* a name, "Mutual Knowledge Phrase" would be a better candidate.

A special case of linguistic co-presence: Donkey sentences

Up to now, we have only considered sortal definite descriptions whose situation variable is instantiated by a discoursally salient value. We have yet to see how binding of that variable affects definiteness marking in HC. The easiest way to do this is to form

[63] The HC verb form *mete* does not reveal this; it is ambiguous between an episodic and a habitual reading. That (30) is intended episodically is made sure by the original French sentence that served as the basis for the translation *J'ai mis du sucre dans mon thé*, where the verb *mettre* 'take' is in the "passé composé". This form must receive a past episodic reading.

"donkey sentences". At logical form, donkey sentences give rise to tripartite structures such that some or all of the variables introduced in the restrictor can reappear in the nuclear scope. Normally, pronouns (the "donkey pronouns") take the place of the anaphoric expression that will be mapped to the scope.

(31)a If a farmer owns a donkey, he beats *it*.

(31)b A farmer who owns a donkey beats *it*.

Passing over the by-now-familiar stylistic inadequacies, one can also use a definite description in place of the pronoun:

(32)a If a farmer owns a donkey, he beats *the donkey*.

(32)b A farmer who owns a donkey beats *the donkey*.

Kadmon (1990) calls this phenomenon "relative uniqueness", because the uniqueness implications of the expressions *it* / *the donkey* hold only relative to single entities in a larger quantified set.[64] Let us assume, in line with our theory, that this larger set is a set of situations in which there is a donkey. Overall, there can be (at least) as many donkey situations as there are donkey-owning farmers, so clearly (31)/(32) do not talk about one single donkey. Relativised uniqueness is thus an effect of situation variable binding.

Here now is a HC sentence with a "donkey definite description":

(33) [Father to son: "Remember what I told you, son: When you see a viper in the garden, what do you do?"]

Wi papa, mwen konnen, lè mwen wè yon koulèv nan jaden an, mwen
Yes father I know when I see INDF viper in garden DEF I

kite *koulèv la* trankil!
leave viper DEF in-peace (E.F.51.8.)

'Yes daddy, I know: When I see a viper in the garden, I will leave *the viper* alone.'

We see that the anaphoric description placed in the apodosis contains the determiner. I will give a formalization to show why this is expected (the situation parameter determining the speaker is the speech situation, s^0; I will not notate it in the formula to increase perspicuity):

(33)F $\forall s\ [[s \in \min\{s^1: \exists x\ [\text{viper}(x)(s^1)\ \&\ \text{see}(\text{speaker}, x)(s^1)]\}]$
$\rightarrow \exists s^2\ [s <_p s^2\ \&\ s^2 \in \min\{s^3.\ \text{leave\_alone}(\text{speaker}, \iota y.\ \text{viper}(y)(s^1))(s^3)\}]]$

[64] I will not consider the problem posed by the fact that some donkey sentences can apparently have a reading on which the denotation of the anaphoric constituent is many-valued.

We see that the situation described in the apodosis is an extension of the situation described in the protasis (hence the $<_p$-predicate relating *s* and s^2). The minimality postulate for situations is taken into account here by requiring explicitly that the situations under consideration are elements of a minimal situation. This is what the *min*-predicate expresses. In order to make the formulas a little more perspicuous, I will simply index the quantifiers over situations with an index '$_{min}$' to indicate that quantification is only over minimal situations. This saves additional variables besides the ones actually quantified over. (33)F is thus supposed to be equivalent to the following:

(33)F' $\forall_{min}s$ [[$\exists$x [viper(x)(s) & see(speaker, x)(s)]]
$\rightarrow \exists_{min}s^1$ [$s <_p s^1$ & leave_alone(speaker, ιy. viper(y)(s))(s^1)]]

'Every minimal situation in which speaker sees a viper can be extended into a minimal situation in which speaker leaves alone the viper.'

What is new about this type of sentence is that the initial topic situation, *s*, is not waiting to be instantiated, as was the case in the previous examples, but is, instead, bound by a universal quantifier over situations, provided by the temporal connector *lè* 'when'. The same situation, *s*, is also used for the determination of the referent of the sortal description *viper la* 'the viper', as the formalization shows. That this description is *la*-determined goes to show that whether the situation variable of a sortal description is bound or not is irrelevant for definiteness marking in HC. What counts is that the description must be evaluated with respect to a situation different from the situation with respect to which the minimal proposition around its verbal predicate −in the case of (33), *leave alone* − is evaluated. The unambiguity requirement that is responsible for the insertion of *la* is only interested in whether the nominal predicate itself necessitates a resource situation; it cannot "see" what happens further to the resource variable, as it were.

Here is another example, in which the antecedent of the donkey description is embedded in a relative clause:

(34) Pi gro problèm pou yon moun k' ap aprann yon lang,
most big problem for INDF person REL IPFV learn INDF language

se reyisi ekri *lang la*.
COP succeed write language DEF (Nougayrol et al. 1976:5)

'The biggest problem for a person who is learning a language is to succeed in writing *the language*.'

In addition, I would like to point out that binding of resource variables is a phenomenon that is not confined to donkey sentences in the narrow sense. Another environment in which resource situation variables are commonly bound is generic discourse, i.e. discourse in which rules concerning the functioning of objects or the typical behaviour

of animate beings are under consideration. The following could be an extract from a documentary on the habits of owls:

(35) When an owl spies a rat, it emits a cry and tries to seize *the rat* with its fangs. *The rat* tries to escape, but often *the owl* is faster.

I take it that the defining characteristic of this type of discourse is that topic situations are never instantiated, but are constantly bound by a generic operator. The fragment of a kind-oriented discourse about an owl and a rat given in (35) would thus be formalized as shown below:

(36) a) When an owl spies a rat, *the owl* emits a cry.

b) *The owl* tries to seize *the rat*.

c) *The rat* tries to escape.

(36)F a) $Gen_{min}s^1$ [[$\exists x \exists y$[owl(x)(s^1) & rat(y)(s^1) & spie(x,y)(s^1)]]
→ $\exists_{min}s^2$ [$s^1 <_p s^2$ & cry(ιx. owl(x)(s^1))(s^2)]]

b) $Gen_{min}s^3$ [[$s^2 <_p s^3$] → try_to_seize(ιx. owl(x)(s^1), ιy. rat(y)(s^1))(s^3)]

c) $Gen_{min}s^4$ [[$s^3 <_p s^4$] → try_to_escape(ιy. rat(y)(s^1))(s^4)]

The structure displayed in the upper lines is as before in the donkey sentences. In the line below, we see that the new topic situation s^3, brought into play by the new verbal predicate *try to seize*, is again generically quantified, and moreover, that the unambiguity requirements of the definite descriptions in that line are satisfied with respect to the resource s^1 in which the owl and the rat are introduced. I assume that the restrictors of the ensuing generic quantifiers are filled by the part-of relation between the previous topic situation and the new ones; this provides for the right kind of contextual restriction and ensures discourse coherence. Roberts (1989) calls this sort of accommodation of contextual material into the restrictor of conditionals "modal subordination". The understood temporal sequencing of (36) should also be made to follow from the resulting structures. The HC for (36) is given in (37) [65]:

(37) a) Lè yon frize wè yon rat, *frize a* pouse yon kri.
when INDF owl see INDF rat owl DEF push INDF cry

b) *Frize a* eseye pran *rat la*.
owl DEF try take rat DEF

[65] I modelled this example on an authentic extract from a HC radio broadcast presented in Ludwig et al. (2001:174), in which popular Haitian superstitions are discussed. One of them has it that owls herald bad luck. Unfortunately, the extract in question starts in the middle of the conversation, which makes it impossible to see how the owl and the rat were introduced into the discourse. The owl and the rat are constantly referred to as *frize a* and *rat la*, though.

c) *Rat la* eseye chape.
rat DEF try escape (E.F.45.4.)

As expected, the anaphoric descriptions are *la*-determined. Once again we see that generically bound situation variables trigger *la*-marking in case the associated nominals have unambiguity requirements that must be satisfied outside of the surrounding minimal proposition. That *la* is used in generic discourse is worth stressing (although it is admittedly hard to see why it should be *otherwise* under the present approach). One of the most influential works on determiner use in creole, Bickerton (1981:22ff., 249ff.), introduces an opposition between "specific" and "generic" uses of noun phrases, and asserts that creoles in general (French-related or other) are characterized by using definite and indefinite articles only when the noun phrase is used "specifically". This is, at best, a terminological confusion, or else a false statement. In (37) we see that HC uses both the indefinite and the definite article in generic environments. The same is true of other French-related creoles, too. What Bickerton really has in mind when using the term "generic" are noun phrases that refer to kinds as abstract entities. Kind-reference is a property of noun phrases; genericity, on the other hand, is a property of sentences, as the above examples show. Bickerton applies the term "generic" to noun phrases, with unfavourable effects. It *is* true that kind-denoting noun phrases are determiner-less in HC (and other creoles), as the following shows:

(38) Mwen li yon liv sou *tòti*. *Tòti* se yon ras bèt ki viv nan dlo
I read INDF book about turtle turtle COP INDF kind animal REL live in water

ak sou tè.
and on ground (E.F.41.2.)

'I read a book about *the turtle*. *The turtle* is a kind of animal that lives in the water and on dry land.'

Here *the turtle* denotes the whole kind, not this or that individual turtle. Unlike in (37), there is no generic quantification over episodic situations in (38). When the owl and the rat are mentioned for the second and third time in (37), it has to be made sure that the individual tokens of *frize a* 'the owl' and *rat la* 'the rat' refer to the same referents introduced earlier as *yon frize* 'an owl' and *yon rat* 'a rat'. Otherwise, the discourse would no longer be coherent. The owl that sees a rat must be identical with the owl that tries to seize that same rat. Generic discourse notwithstanding, we are not free to choose any old owl or rat every time we encounter the noun *owl* or *rat* in a discourse like (37). Consequently, the *la*-marking is necessary in the HC discourse. It relativises reference to the previous discourse, thereby ensuring co-reference. In (38), there is no need for co-reference between the two occurrences of *tòti* 'the turtle' because no single turtle-individual is sorted out from the kind in the first place. The relation between the two occurrences of *tòti* is not one of co-reference, at least not in the sense that the identity of reference of the two tokens is discourse-mediated. I will say more about the reference of bare nouns such as *tòti* in (38) in chapter 6.

Overall, the above perusal of mutual knowledge types − recognitional, deictic, and anaphoric − should have established that whenever a resource situation is called for to interpret a definite description, the determiner is required in HC. The reverse generalization also holds: Whenever the determiner is inserted, a resource situation is involved. − In the next section, I will use this insight for the treatment of relational and functional descriptions, and defend it against opposing theories of definiteness marking in HC.

4.5.2 Complete functional and relational descriptions

In chapter 3, we learned that functional descriptions either come with an explicit internal argument, or the internal argument is left implicit. The latter option is only viable if the addressee can retrieve that argument from the preceding context. In what follows I will split the discussion of functional descriptions along the explicit / implicit line, because it affects the use of *la* in a non-obvious way.

What I have to say about complete functional descriptions mostly falls out of the previous sections, which allows me to be brief at this point. I repeat some examples of HC complete functional descriptions given earlier:

(39) a) papa Mari ‘the father of Mary’
father Mary

b) plafon [chanm mwen] ‘the ceiling of my room’
ceiling room my

c) tay [nèg la] ‘the height of the man’
height man DEF

d) men [tifi la] ‘the hands of the girl’
hand girl DEF

In addition, here are some examples in their sentential contexts:

(40) Nan *depatman sid peyi Dayiti*, jis avan ou pran Tiburon, nou jwenn
in department south country Haiti just before you take Tiburon we join

on lokalite ki rele Lèzanglè.
INDF place REL call L (Ludwig et al. 2001:164)

‘In the *southern district of Haiti*, near Tiburon, there is a place called Les Anglais.’

(41) Jodia, mwen al kay *grann mwen.*
today I go house grandmother my (H.I.17.)

'Today I visited *my grandmother*.'

(42) *Kwayans yon moun* ak sa li panse, pa gen anyen pou wè ak sa.
belief INDF person and DEM he think, not have nothing for see with DEM
(*Konstitisyon Repiblik d'Ayiti*: chapit 2, nimewo 35-2)

'*The religious beliefs of a person* and what he thinks are his private affairs.'

(43) Kom plizyè lòt lokalite nan *sid peyi a*, komun Ozangle te frappe
like several other place in south country DEF community O PST hit
anpil tou.
much all (Ludwig et al. 2001:164)

'Like several other places in *the south of the country*, the community of Les Anglais was hit very hard.'

(44) Nan *tèt pye pòm nan*, tifi a wè yon gwo pòm wouj.
in top tree apple DEF girl DEF see INDF big apple red (E.F.92.)

'At *the top of the tree*, the girl sees a big red apple.'

Crucially in HC complete functional descriptions, the determiner is either completely absent ((39)a-b, (40)–(42)), or present only once, in which case it belongs to the embedded nominal ((39)c-d), (43)–(44)). The question in connection with this pattern is usually (cf. Lumsden 1989, Kihm 2003b) couched like this: Why is it that the head nouns in structures of the sort seen in (39) –(44) receive a definite reading in spite of there being no definite determiner associated with them? – I already pointed out that a semantic explanation is available. It has two parts: The first answers the question of why the noun phrases are interpreted as definites and not indefinites. This comes from the inherent unambiguity of the head noun. The second part answers the question of why the (external) definite determiner is absent. This comes from the semantics of the determiner *la* in connection with "Economy of Domain Assignment": On the one hand, *la* signals that shifting to a resource domain is necessary to achieve unambiguity; on the other hand, "Economy of Domain Assignment" prohibits any such shift if it can be avoided. With functional head nouns, it *can*; thus, the absence of an external *la* in complete functional descriptions. This is already my whole account of the shape of functional descriptions in HC.

Earlier accounts of functional descriptions in HC (Lumsden 1989, Kihm 2003b) presuppose that there should be a definite determiner for the embedding nominal since the noun phrase as a whole is definite, and then go on to search for principles that prevent the determiner from being realized at the surface in that particular constellation. I think that this is a mistake that comes from neglecting the semantic peculiarities of *la*. This form cannot be fully assimilated to e.g. English *the*, precisely because it has differing, more specific discoursal implications. It falls out of these particular implications alone that *la* cannot even contend to be the determiner in functional descriptions, and so there is no need to search for structural mechanisms suppressing the definite determiner *ex post* in HC, either.

At long last, the bareness of HC functional descriptions provides empirical evidence, promised in section 3.5.3, that this type of nominal does generally not function in the anaphoric mode. We have seen that anaphoric descriptions always require the determiner in HC. So if functional descriptions were or could be anaphoric, they would take *la*. That they do not supports the view that their unambiguity is derived differently.

The previous sections brought out a fundamental difference between two types of definite expressions and their morphological shape in HC: functional and sortal definite descriptions. However, I have only discussed complete functional descriptions in HC up to now, i.e. functional descriptions which include an overt internal argument. We have yet to see how functional descriptions with implicit arguments behave in HC.

4.5.3 Functional descriptions with implicit arguments

Here are some examples of functional descriptions with implicit arguments in HC:

(45) Eli te renmen liv la, e kounye a li vle rankontre *otè a*.
Eli PST love book DEF and now DEF she want meet author DEF
(E.F.32.)

'Eli loved the book, and now she wants to meet *the author*. '

(46) Yè, mwen viste yon vil provens. *Meri a* pi wo ke *legliz la*.
Yesterday I visit one town province town-hall DEF more high than church DEF
(E.F.36.9.)

'Yesterday I visited a town in the province. *The town hall* was higher than *the church*.'

(47) Nan lekòl de medsin an Ayiti yon pwofesè ap fè yon kou […].
in school of medicine in Haiti INDF professor IPFV make INDF course

Li mande *etidyan yo*: […] (Ludwig et al. 2001:194)
he ask students PL

'A professor is giving a course at the medical department of the University of Haiti […]. He asks *the students*: […]'

I take it that all of the italicized noun phrases above are definite by virtue of a presupposed generic one-to-one relation between an entity mentioned earlier and the referent of the noun phrase in question (cf. section 3.5.2). We see that all of these descriptions take the determiner in HC – which may come as a surprise: Up to now, the determiner was always and exclusively assigned to sortal descriptions, and the explanation was that *iota* only produces unambiguous referents if uniqueness / maximality is relativised to resource domains, whence the *la*-marking. Functional descriptions were in complementary distribution to the *la*-marked ones because the underlying unambiguity-producing mechanism was assumed to work without relativisation to a resource domain. Why is it then that the descriptions in (45) – (47) have the determiner? It must have to do with their being incomplete, of course. Sortal descriptions are incomplete because their referential argument must be located in a resource situation. In contrast, the external argument of functional descriptions with implicit arguments will be assessed with respect to the topic situation, due to "Economy of Domain Assignment". But the *in*ternal argument of these descriptions needs contextual completion. Recall that in section 3.5.5 I argued that functional descriptions with implicit arguments can be represented as follows:

(48) $[[\textit{the } F]] = \lambda s^{t}.\ f(\iota x.\ (x = x)(s^{r}))(s^{t})$

This form shows that the Skolem function *f* is dependent on contextual information to establish the individual in its domain: *f* cannot produce an unambiguous output unless it is provided with a resource in which to locate the argument-expression. Thus we can say that in HC, *la* signals unambiguity produced with the help of a resource situation; whether the resource applies *in*ternally or *ex*ternally is obviously irrelevant.

At this point I would like to come back to my earlier decision to analyse functional descriptions with implicit arguments as in (48). This form allows us to link every occurrence of the HC determiner to a resource situation located in the nominal complex. Had we chosen to render the unpronounced internal argument by way of a free variable only, a more complicated rule of use for *la* would now be required (unless one provides individual variables with situation parameters, that is): We would have to say that *la* indicates either a resource situation variable or, under certain circumstances, a free individual variable. I find it preferable to have a unified explanation here, even at the cost of a more complex derivation of the meaning of functional descriptions with an implicit argument.

As is well-known, functional descriptions are also open to "relative-uniqueness"-readings. Here are two examples in HC, with formalizations added:

(49) Chak fwa Pòl pase nan yon vilaj fwansèz, li ale visite *legliz la*.
Every time Paul pass in INDF village French he go visit church DEF
(E.F.35.3)

'Every time Paul comes by a French village, he visits *the church*."

(49)F $\forall_{min}s$ [[$\exists$x [village(x)(s) & French(x)(s) & come_by(p, x)(s))]]
$\rightarrow \exists_{min}s^1$ [s $<_p$ s^1 & visit(p, f_{church}(ιy.(y = y)(s))(s^1))(s^1)]]

(50) Anpil fwa, lè Marc ale nan rèstoran, li pa renmen *menu an*.
many time when M go in restaurant he not like menu DEF (E.F.38.)

'In general, when Marc goes to a restaurant, he is dissatisfied with *the menu*."

(50)F $GEN_{min}s$ [[$\exists$x [restaurant(x)(s) & go_to(m, x)(s)]]
$\rightarrow \exists_{min}s^1$ [s $<_p$ s^1 & dissatisfied_with(m, f_{menu}(ιy.(y = y)(s))(s^1))(s^1)]]

Not surprisingly, relativised functional descriptions take the determiner in HC if the internal argument is missing (as is typically the case in structures such as those displayed above). Furthermore, note that "Economy of Domain Assignment" requires the situation variable of the complete functional descriptions to be identified with s^1 because that is the parameter relative to which the minimal proposition in which the descriptions figure is evaluated.

4.5.4 Relational descriptions

In section 2.2.2.1, I hinted at the intermediate status of relational descriptions (e.g. *the son of the farmer*) between sortal and functional descriptions. This status is mirrored in the definiteness-marking patterns of HC. Relational descriptions are by default provided with the determiner; this is as expected, because they have a multitude of possible referents in their range, so that resource-based information becomes necessary to produce an unambiguous referent.

(51) M telefonnen w paske gen yon ti pwoblèm *ak pitit ou a*.
I telephone you because exist INDF DIM problem with kid your DEF
(Fattier 2006:95)

'I'm calling you because there is a minor problem *with your kid (son/ daughter)*.'

In other cases, the determiner is absent even though the head noun itself does not guarantee unambiguity of reference:

(52) Li fwape *se Marie*.
he beat sister M (H.I.104.8.)

'He beat *the sister of Mary*.'

Examples like this are expected, given that in English and other languages, too, relational descriptions can sometimes be used in the absence of an antecedent (recall *Towards evening we came to the bank of a river*).

Another notable observation about relational descriptions in HC is made by Valdman (1977a), who discusses the example in (53) below. This shows that a description such as *manje mwen* 'my meal' can do without the determiner. The unambiguity implication can then be computed in a context-free manner, thanks to general background knowledge about the relationship between meals and human beings (the latter consume the former, one per time of day). But the same description can also be *la*-determined, in case the particular meal in question is already part of the discourse situation, and is taken up anaphorically. In that case, the context informationally strengthens the relation between the speaker and her meal to make it an unambiguous one.

(53)a Kote *manje mwen*?
where meal my

(53)b Kote *manje mwen an*?
where meal my DEF

'Where is *my meal*?' (Valdman 1977a:116)

Valdman (ibid.) comments that for (53)a "we have to assume that the speaker has not received his share and asks to be served" ("on doit supposer que le locuteur n'a pas reçu sa part et demande à être servi"), and that in the case of (53)b "he has already been served but the plate containing the meal that had been distributed to him – and that is thus subject to anaphoric take-up – has been taken away" ("il a déjà été servi mais que l'assiette contenant la nourriture qui lui avait été attribuée – et qui est donc sujet au rappel anaphorique – a été enlevée"). I think that the contrast in (53) is important for the understanding of the use of *la* in HC descriptions, because it shows us that it is impossible to formulate a structural principle that tells us in a yes-or-no manner whether the determiner must or must not appear in HC genitive structures (this is what e.g. Lumsden (1989) or Kihm (2003b) strive for). It is the particular meaning of the head noun that is decisive, not the genitive structure itself. In this domain HC cannot be aligned with English, where every occurrence of the string **my the meal* is ungrammatical and where the same string *my meal* would have to be employed in both contexts described by Valdman.

4.5.5 Unambiguity through adjectival modifiers

My discussion of definite descriptions was built on the contrast between sortal and functional, and unambiguity was accordingly an effect of either the application of *iota* or the head noun denoting a function from individuals. In this section, I will discuss another type of descriptions, in which unambiguity is imposed by the modifier of a sortal noun.[66] The focus will once more be on the distribution of the HC determiner in the ensuing descriptions.

"sèl" ('only')

In this section I will be concerned with *only* as an adjective, not as an adverbial (i.e. *only* in the sense of *sole*, not in the sense of *solely*). A striking fact about English noun phrases modified by adjectival *only* is that they do not allow any other determiner besides *the*: *the only chair in the office*, but not **an only chair*, nor **many only chairs*, nor **this only chair*. I propose the following explanation for this restriction: *only* denotes a function which applies to a set (the denotation of the common noun) and returns a singleton (the only one in the noun's extension). Now this sounds very much the same as our analysis of the (semantically substantial) English definite article in section 2.2.1. I do think the words *the* and *only* are very similar in meaning but, most importantly, *only* asserts what *the* presupposes. Therefore, unambiguity induced by *only* can be negated, whereas this is not possible when *only* is missing:

(54)a Peter is not the only student from London – Selma is from London, too.
(54)b #Peter is not the student from London – Selma is from London, too.

Moreover, *only* can only modify sortal nouns, not functional ones: **the only father of John* is odd, because *only* asserts what the head noun already implies.[67]

In English, *only* is obligatorily accompanied by a redundant *the*, just like with descriptions built from functional head nouns. In HC, definiteness marking depends once more on the domain parameter. A pair of examples bearing this out is the following:

(55)a Pyé se *sèl gason nan fanmi li*.
P COP only boy in family his (E.F.76.20.a.)

'Peter is *the only boy in his family*.'

[66] All these constructions are discussed by Hawkins (1978) under the heading "The unfamiliar uses of the definite article in noun phrases with explanatory modifiers".
[67] Further differences between *the* and *only* are discussed in Abbott (1999).

(55)b Fanmi sa a, se yon gwo fami, men Pyé se *sèl gason an.*
family DEM DEF COP INDF big family but P COP only boy DEF
(E.F.76.20.b.)
'This family is big, but Peter is *the only boy*.'

In (55)a, the noun phrase *sèl gason nan fanmi li* 'the only boy in his family' is functionally complete because the domain relative to which Peter's boy-hood is unique is given descriptively via the prepositional phrase 'in his family'. Therefore, "Economy of Domain Assignment" decrees that no domain shift be carried out, and so *la* cannot be inserted. In (55)b, on the other hand, *sèl gason an* 'the only boy' is incomplete in the sense that we need to ask "the only boy in which domain?" This information comes from outside the minimal proposition, and so a resource domain is called for, signalled as usual by *la.* After the case of functional descriptions with implicit arguments, we see once again that a functional noun phrase is not *per se* incompatible with *la* if the nominal function in question needs to draw from contextual information to be computed.

Superlatives

According to Lyons (1999:246), "it is a general fact that languages which have definiteness marking use it with superlatives." As it stands, this is true of English but not for HC, as we will see next.

The superlative morpheme denotes a function picking out the single individual satisfying a certain gradable property to a maximal degree. Here is Heim's (1999) semantics for the superlative in terms of a two-place predicate:

(56) *-est* (x, R): $\exists d\,(R(x,d) \,\&\, \forall y\,[y \neq x \rightarrow \neg\, R(y,d)])$ ((6) in Heim 1999:2)

R stands for an adjective meaning (a relation between objects and degrees), *x* for an individual, and *d* for a degree (of being *R*). (56) says that *x* is *R*-est if the degree *d* to which *x* is *R* surpasses the degree to which all others are *R*. The lexical entry for superlatives thus contains a kind of uniqueness clause, which explains why superlatives only combine with the definite article in English (*the shortest spy*, but not **a shortest spy*, **this shortest spy* or **many shortest spies*). Again we see that unambiguity-marking via *the* is obligatory in English definite descriptions. Since unambiguity is part of the lexical specification of the superlative, its meaning can be regarded as a function. In the case of the superlative, this function maps a set to a particular member of that set, namely the one that satisfies the property under consideration to a maximal degree. If the superlative morpheme attaches to an attributively-used adjective, it refers to a complex property. For instance, the *highest mountain*-function picks out an unambiguous individual from the set of "*d*-high mountains".

In HC, definiteness marking is again differentiated depending on where the domain relative to which unambiguity holds is specified:

(57)a Nan klas Mesye Dupont, *pi bon elèv la* pwal gen yon kado.
in class Mister Dupont most good pupil DEF PRSP have INDF reward
(E.F.69.a.)

'In Mister Dupont's class, *the best pupil* will get a reward.'

(57)b *Pi bon elèv nan klas Mesye Dupont* pwal gen yon kado.
most good pupil in class Mister Dupont PRSP have INDF reward (E.F.69.b.)

'*The best student in Mister Dupont's class* will get a reward.'

The English for (57)a/b represent a minimal pair in which only the position of the prepositional phrase is changed. The same leftward movement is possible in HC but, if it is carried out, the determiner must come in after the noun phrase. This goes to show that topic situation abstracts cannot be delimited by sentence boundaries since, if they were, the appearance of the definite determiner in (57)a would be left unexplained. What (57)a illustrates is that topic situation abstracts are defined by the smallest truth-evaluable proposition built from a verbal predicate and its obligatory arguments.[68] In the case of (57), this proposition is denoted by *The best student will get a reward*. According to Percus (2000), the topic situation abstractor is adjoined to the IP node. This would give (57)a the following semi-formal rendering:

(57)aF $[_{CP}$ in Mr Dupont's class $[_{IP}\ \lambda s^t\ [_{IP}$ rewarded $[_{NP}\ f_{\text{-est}}$ (good student)$(s^r)]]](s^t)]]$

$f_{\text{-est}}$ *(good student)*(s^r) is a term that stands for the output of the superlative function, as defined in (56), applied to the set of good students in s^r. The dislocated domain specification *in Mister Dupont's class* is beyond the reach of the noun phrase *the best student* because the topic situation abstractor intervenes. Material situated beyond the topic situation abstractor is by definition (part of) a resource. The bracket to the left of the abstractor would mark the IP-boundary. I assume that *in Mr Dupont's class* names a situation, so that the interpretation of (57)a is completed once s^r is equated with this situation. Of course, the topic situation with respect to which the proposition in (57)a will be evaluated is none other than "Mr Dupont's class", so that the resource and topic situation will end up receiving the same value; this is, after all, the reason why the truth-conditionally equivalent (57)b does without the determiner. But the contrast between the two sentences shows clearly that the insertion or non-insertion of the determiner proceeds quite mechanically, i.e. with regard to the syntactic ordering of the relevant constituents. Furthermore, notice that in order to account for the *la*-marking in (57)a, we have to exclude material beyond the IP-boundary from the "minimal proposition" since,

[68] "truth-evaluable" here means "can be judged true or false when provided with an appropriate topical domain".

otherwise, "Economy of Domain Assignment" would block the appearance of the determiner in any case.

In the course of her argumentation, Heim (1999) is led to an amended version of (56) in which the context-dependence of superlatives is taken into account. The superlative thus comes to denote a ternary relation:

(58) *-est* (x, R, C): $\exists$d (R(x,d) & $\forall$y [y$\neq$x & y$\in$C $\rightarrow$ $\neg$ R(y,d)])
((10) in Heim 1999:3)

C is a contextual predicate that helps to narrow down the comparison class. In the present outlook, the job of this contextual predicate is taken care of by situation arguments, so that (58) would have the following shape:

(59) *-est* (x, R)(s^t): $\exists$d (R(x,d)(s^t) & $\forall$y [y $\neq$ x & in(y, s^r) $\rightarrow$ $\neg$ R(y,d)(s^t)])

However, Heim's amendment is only applicable to some superlatives, namely those that are *la*-marked in HC, such as *pi bon elèv la* in (57)a. (58) / (59) is an appropriate formalization of those cases and it explains the appearance of *la*. Other superlatives, such as *pi bon elèv nan klas Mesye Dupont* 'the best pupil in M. Dupont's class', do not need a contextual restriction any more, for the class relative to which the superlative is evaluated is explicit in the minimal propositional content. In those cases, (56) is sufficient. Accordingly, *la* is absent in the HC renderings.

Here is another pair of examples with superlative descriptions: the one in (60)a is complete, the one in (60)b incomplete.

(60)a Pòl monte sou *montany ki pi wo an Afrik*.
P climb on mountain REL most high in Africa (E.F.68.24.)

'Paul climbed *the highest mountain in Africa*.'

(60)b Pemi Pyé, Pòl ak Mari, se Pòl ki monte sou *montany ki pi wo a.*
among P P and M COP P who climb on mountain REL most high DEF
(E.F.67.19.)

'Among Peter, Paul and Mary, Paul climbed *the highest mountain*.'

(60)a contains what is called an "absolute superlative", (60)b a "comparative superlative" (cf. Heim 1999). Underlying the assertion in (60)a is a set of mountains, namely, the mountains on the African continent. (60)a states that Paul climbed the highest of them (the Kilimanjaro). Since the resulting superlative has an unambiguous referent, the description remains determiner-less. In contrast, (60)b asserts that the height of the mountain climbed by Paul exceeds the height of the mountains climbed by all the persons in the comparison set (however high those mountains may be). Since this

set is introduced outside of the minimal clause in which the superlative is located, the interpretation of the superlative noun phrase depends on a resource and the determiner is, again, required.

What goes for superlatives also goes for ordinal number words. Ordinals are comparable to superlatives in that they map individuals to unambiguous elements of a scale. In the case of ordinals, the scale simply represents a sequence, temporal or other. If the relevant ordering is established within the minimal proposition, no determiner appears (61); if it is defined outside of this domain, the determiner must come in (62):

(61) *Premye tibebe k ap fèt an 2010* ap wobableman yon chinwa
first baby REL IPFV born in 2010 IPFV probably INDF Chinese
(E.F.71.13.)

'*The first baby to be born in 2010* will probably be Chinese.'

(62) Marie ap okipe de bebe. *Premye bebe a* gen twa mwa,
M IPFV look-after two baby first baby DEF have three month

deziem bebe a gen kat mwa.
second baby DEF have four month (E.F.73.12.)

'Mary looks after two babies. *The first baby* is two months old, *the second baby* is four months old.'

"menm" ('same')

same is another adjective that can only be used in definite descriptions. Roughly speaking, it indicates the identity of two or more referents. For example:

(63)a Paul has a Mercedes. John has *the same car*.

The identity expressed by *same* can generally refer to types or tokens. (63)a can mean that John has the same car token that Paul has, or that John has a car of the same type (a Mercedes), too. The latter reading is more salient in (63)a because, in our culture, a car is usually owned by only one person (if only for legal reasons). Moreover, if one wanted to assert that Paul and John own the same car, there would be more natural ways to put it, like *Paul and John share a car*. In other cases, the token reading is more salient:

(64)a Paul fell in love with a girl. Unfortunately, John fell for *the same girl*.

Both the type- and the token-reading of *same* require the determiner in HC:

(63)b Pòl gen yon Mèsedès. Jan gen *menm vwati a.*
P have INDF Mercedes J have same car DEF (E.F.78.b.)

(64)b Pòl renmen yon tifi. Malerezman, Jan renmen *menm tifi a*.
P love INDF girl unfortunately J love same girl DEF
(E.F.107.a.)

That *same* can only be used with the definite determiner is due to the fact that whatever referent satisfies this predicate must be identical with *another* referent mentioned somewhere in the same stretch of discourse. Unambiguity is thus imposed on the referent of the *same*-noun phrase via identification with this other referent. And since this other referent is introduced outside of the minimal proposition with respect to *same*, the referent of the *same*-noun phrase needs to be determined with the help of a resource situation. In (63) and (64), this resource is introduced in the first sentence.

There is, however, another reading of *same*, called the "sentence internal reading" (after Carlson 1987) as opposed to the "sentence-external" (or "deictic") reading in which the identification of referents takes place inside the same clause in which *same* is located:

(65)a Paul and John have *the same car*.

(66)a Paul and John love *the same girl*.

This construction requires a plurality as a licenser, such that the referent of the *same*-noun phrase stands in an identical verbal relation to the single members of this plurality. The term "internal" for this reading is quite appropriate also against the background of the terminology adopted here insofar as its interpretation only requires an internal situation, and no resource. Accordingly, there is no determiner in the corresponding HC sentences:

(65)b Pòl ak Jan gen *menm vwati*.
P and J have same car (E.F.10.8.)

(66)b Pòl ak Jan renmen *menm tifi*.
P and J love same girl (E.F.10.7.)

To sum up, the discussion of unambiguity-inducing noun modifiers, although sketchy, has helped to further corroborate the hypothesis about two sorts of referential unambiguity and their impact on the grammar of definite descriptions in HC.

4.5.6 Summary and discussion of the findings

It has been established by now that the HC determiner is not a plain "definiteness marker" in the sense that every unambiguously denoting noun phrase is *la*-determined. It is only those definite descriptions that involve resource situations that are *la*-

determined. This leads us to the conclusion that HC *la* marks not unambiguity simpliciter, but only unambiguity in a resource domain. It is furthermore not an option to say that *la* marks *iota* and that the presence of a resource situation is only an effect of the domain-restricting requirements that *iota* imposes. It would no doubt make for a simpler theory but it fails because, as we saw, *la* can also be required when the unambiguity-implying component is not *iota*, but a functional element; for instance I do not assume that the superlative morpheme has a maximization component. On the other hand, kind-denoting descriptions were represented as *iota*-terms in section 3.6 – an idea that will be elaborated in chapter 6 –, and yet they are not *la*-marked in HC (cf. example (8)). This shows that *iota* is neither a necessary nor a sufficient pre-condition for the use of *la*. We thus have to stick with the more unwieldy assumption that HC *la* marks unambiguity in a resource situation.

I have shown that a resource situation is a necessary pre-condition for the use of *la*. What remains to be shown is that unambiguity is a also a necessary pre-condition for *la*. Only then will it be established that *la* really is the expression of unambiguity in a resource domain.

To see whether *la* really implies unambiguity, we can simply take cardinal nominals and consider the outcome when combining them with the definite marker (here necessarily given in its plural form *yo*):

(67) kat chen yo – *(the) four dogs
kèk nèg yo –*(the) few men

The asterisks in the translations mean that if *yo* is present in the HC nominals, the resulting noun phrases must be translated into English as definites; there is no context in which they could ever be interpreted as *in*definites. This goes to show that *la / yo* actually implies unambiguity.

The finding that *la* implies unambiguity also explains certain distributional restrictions. For instance, like English *the*, HC *la / yo* cannot be combined with noun phrases denoting inherently undetermined quantities:

(68) antre twa oubyen siz chemiz (*yo) ‘(*the) between three and six shirts’
anviwon sèt chen (*yo) ‘(*the) approximately six dogs’

Moreover, we can also explain why the HC determiner must accompany every occurrence of the demonstrative *sa*:

(69) tig sa *(a) ‘that tiger’
tifi sa *(yo) ‘those girls’

A demonstrative always implies unambiguity of reference (otherwise a determined referent could not be picked out). It is furthermore interpreted with the help of either speaker intentions or a demonstrative act, depending on your favourite theory of demonstrativity. Simple *la*-marked descriptions (those without *sa*) differ from demonstrative descriptions in that they are not sensitive to speaker intentions or demonstrations. But both simple sortal definite descriptions and demonstrative descriptions need a resource situation. While this point has been made for sortal definite descriptions above, it is even more obvious in the case of demonstrative descriptions: Recognizing the speaker's directing intentions or her demonstration requires consulting features of the context of utterance. Consequently, unambiguity can never be resolved in a self-sufficient way like with functional descriptions. This also explains why the demonstrative item *sa* is incompatible with functional descriptions, be they complete or incomplete:

(70) *papa Mari sa '*that father of Mary'
(yon liv)…*otè sa '(a book)… *that author'

In the next section, we will embark on a discussion away from the noun phrase and towards the clause level. It will be shown that *la* can act as a clause marker in HC, with similar functions as in the nominal domain.

4.6 Beyond the noun phrase: Situations and verbal predicates

Up to now, we have only considered the situation parameter of *nominal* predicates in some detail. We have seen that under certain circumstances, the situation parameter of nominal predicates can vary from that of the verb phrase. For this the notion of a resource situation was introduced and its impact on the form of HC descriptions was discussed. A question that might be asked in this regard is whether the situation parameter of verbal predicates can undergo similar semantic shifts. The literature has answered this question in the negative. Farkas (1997:199) points out that while noun phrases embedded under intensional verbs can escape binding of their world/situation parameter, the same is impossible for intensionally embedded verb phrases: Situation parameters of main predicates are obligatorily bound by higher operators; in the present terminology, we can say that their situation parameter cannot be set to a resource situation which would free them from binding. Récanati (2004b) makes the point in a more general way:

> "Whether or not a sentence occurs in isolation, the main predicate in that sentence – the predicate which corresponds to the topmost verb-phrase – is always evaluated with respect to the circumstance of evaluation for the sentence in question. Consider the simple sentence: "Every student laughs". There is simply no possibility of a divergence between the situation with respect to which the sentence is evaluated and

> the situation with respect to which the main predicate, "laughs", is evaluated. That means that, if the sentence is asserted in isolation and evaluated with respect to some […] situation *s,* the set of laughers which serves as second argument to the quantifier "every" will be the set of laughers-in-*s*." (Récanati 2004b:32f.)

Récanati's claim converges with our pre-theoretic intuitions: It is hard to conceive what it would mean for a verb phrase *not* to be assessed with respect to the circumstances of evaluation. But now consider the following sentences from HC (the translations can be ignored for the moment):[69]

(71) Mounn nan kraze manchinn nan *an.*
man DEF destroy car DEF DEF

'The man has destroyed the car, as we knew he would.'
((1b) in Lefebvre 1998:219)

(72) Rob *la* blan *an*
dress DEF white DEF

'The dress has become white, as we expected it would.'
((52) in Lefebvre 1998:234)

(73) Mari pati *a*.
Mary leave DEF

'Mary has left, as we knew.' ((62) in Lefebvre 1998:238)

From the post-verbal / sentence-final position of *la* in these examples, we may draw the tentative conclusion that it associates with verbal predicates in HC. So if *la* has the same function in connection with both nominal and verbal predicates, we would be forced to consider the possibility that verbal predicates can have their situation parameter shifted, too. Lefebvre (1998) provides further motivation for this hypothesis by affirming that HC has but one lexical entry for *la*, which allows combination with both nouns and verbs. Note in this regard that *la* undergoes the same phonological conditioning in (71) - (73) as in its role as a nominal determiner. In Lefebvre's terms, *la* represents a "multifunctional head", which means that it is not syntactically restricted to select either a noun phrase or a verb phrase: it can take either. If this is so, we should expect a semantic parallelism between *la* used in the nominal and verbal domains all the more. Lefebvre calls the *la* in examples like (71) - (73) an "event determiner". According to her, the event determiner

> "[…] identifies an event that is already part of the shared knowledge of the participants. It literally means 'this event in question / this event that we know of.'"
> (Lefebvre 1998:219f.)

[69] I came across the phenomenon described in this section only after I had finished my work with informants; consequently, all of the data and translations here are taken from Lefebvre (1998).

This formulation makes the parallelism with the nominal determiner quite discernible. Actually, Lefebvre's literal paraphrase is the linguists' standard English paraphrase for the HC nominal determiner, applied to the noun "event". Before discussing the English translation, let me try to give a formal account of the semantic structure of HC sentences like the above, inspired by Lefebvre's findings and formulations. I claim that we can do this without adding a single theoretical device to the existing machinery.

First, here is how (73) without the final *la* would be formalized (*m* stands for Mary), still disregarding tense:

(74) Mari pati.
(74)F λs^{t}. leave(m)(s^{t})

Adding clausal *la* results in a shift of the situation variable of the main predicate. Consequently, I propose to give (73) the following form:

(73)F leave(m)(s^{r})

According to this formula, the topic situation with respect to which an utterance of (73) is evaluated must be a salient resource situation (by default, the discourse situation). From a discourse-pragmatic point of view, this is an anomalous constellation: Normally, utterances are made in order to narrow down the "context set", i.e. the set of possible worlds / situations compatible with the shared beliefs of the discourse participants. This is an abstract conceptualization of information growth, which is generally taken to be the fundamental aim of rational discourse in the assertional mode. But according to the above formula, (73) does not narrow down the context set. It can't, because it expresses a proposition that is already in the common ground. Every resource situation that a speaker can refer the hearer to must, by definition, be already accessible to the hearer. Now, what is the point of asserting a proposition already in the common ground? How can such seemingly redundant utterances be saved from the infelicity resulting from a violation of the Gricean maxim of Quantity? – Lefebvre's English translations ('as we knew / expected') give us a hint: The utterances are used to *confirm* something, a prediction or an expectation. This might be a reasonable move to make in communication: The common ground between speaker and hearer can encompass a vast amount of information but there are cognitive limits to what speech participants are able to retrieve at any given moment. So sometimes it may be helpful to promote a piece of knowledge that has been pushed to the background to the focus of attention when the state of affairs in question is relevant again at the present point of the conversation. I therefore propose that we think of clausal *la* as a variant on the recognitional use in Himmelmann's (1996:61) definition: "The speaker reminds the hearer of specific shared knowledge". In the case of clausal *la*, this shared knowledge pertains to states of affairs instead of to individuals. From this perspective, (73)F is a feasible analysis: (73) does not actually *increase* the hearer's stock of knowledge, but it helps to *re-establish* a piece

of knowledge. We might thus be able to stick to the basic semantics of *la* (both clausal and phrasal) as referring the hearer to resource situations.

I will not make any detailed suggestions on how the tags 'as we knew / expected' should be derived from representations such as (73)F. A satisfactory treatment of such 'procedural' (as opposed to representational) aspects of meaning is a lingering challenge for formal semantics in general. But I should like to add that the tag 'as we expected' suggests that sometimes clausal *la* has more complicated implications than just re-affirming a proposition already in the common ground. After an utterance of *We expect that p*, it is not the set of possible worlds / situations in which $\neg p$ that is deleted from the context set, but rather (roughly) the set of possible worlds / situations in which $\neg p$ is more likely to be true in the future than p. In those cases, then, *la* does not just re-affirm something; rather, it turns a likelihood into a certainty. Note, however, that Lefebvre's translations always have *as we expected*, never *as I expected* or *as they expected*, suggesting that the prediction itself must have been in the common ground after all. In that sense, the expectation-based use of *la* is recognitional in Himmelmann's sense, too.

The semantic-pragmatic function of clausal *la* is not without cross-linguistic correlates. In German, a language rich in discourse particles, the word *ja* 'yes' can be used to very much the same effect as the event-determining *la* of HC. Thus, a good translation of (73) into German would be

(75) Maria ist ja (bekanntlich) gegangen. GERMAN
Mary is yes (as-is-well-known) left

This sentence can only be used if the fact that Mary has left is already in the common ground, but it is re-introduced by the speaker to highlight its relevance for the subject presently under discussion. Like (73), (75) cannot be uttered as a direct answer to the question *Where is Mary?*. It is furthermore telling that *ja* is frequently followed directly by the adverb *bekanntlich* 'as is well known'. The latter is exactly the translation / paraphrase that Lefebvre offers for the HC event determiner.[70]

Another important difference between nominal referents (individuals) and verbal referents (eventualities) is that the latter usually have a richer internal structure than the former, insofar as event-denoting descriptions often have slots for various participants in various semantic roles. As a consequence, it is imaginable that clausal *la* has scope not over the whole proposition, but only a part of it. And in fact, sentence (71) has a second reading, which Lefebvre translates as follows:

[70] Presumably the same semantic contrast is lexicalized in the English causal connectives *since* vs. *because*: The former implies that the following fact is in principle known to the addressee, the latter does not.

(71)b Mounn nan kraze manchinn nan *an*.
man DEF destroy car DEF DEF

'The man has destroyed the car, as we knew it would be destroyed.'
((1c) in Lefebvre 1998:219)

Obviously, the propositional content that *la* signals to be in the context set is not that the man was going to destroy the car, but merely that the car would by destroyed by someone or other. That it was the man who has destroyed it is new information. The limited scope of clausal *la* over the direct object-plus-verb complex only cannot be mirrored in the surface structure: *la* must immediately follow the verbal predicate on both readings.

The above translations also show that *la* as an event determiner enforces a resultative reading – hence the English present perfect form in the translations. The simple past would be inappropriate in the translations of (71) and (73), and (72) could not mean *The dress is white, as we knew* although the same sentence without the determiner, *Rob la blan*, could mean 'The dress is white'. This fits well with the epistemic overtone of *la*-marked clauses: Repeating something which is already in the common ground cannot aim at merely representing past or present eventualities (for which the simple past or present would be appropriate in English), for their having taken / taking place is strictly speaking no news to the interlocutors. If a proposition is re-introduced, it must have relevance for the present situation, and this is what the present perfect can signal in English (cf. Portner 2003). A more profound examination of this topic would require expanding the formalism so that tense and aspect could be represented, as well. I will not undertake this task here. All I want to show in the present section is that the use of HC *la* on the clause level supports its analysis as a situation shifter. The reader is referred to chapter 8 of Lefebvre (1998) for a more detailed discussion of the syntactic aspects of clausal *la* and some additional semantic restrictions not touched upon here.

To complete this overview of *la* as a clausal determiner, I should mention its use as what Lefebvre calls an "assertive marker" and characterizes thus:

> "In one of its functions, the determiner in Haitian […] may be used to assert the content of the proposition […]. In this case, the interpretation of the determiner is discourse-oriented; it relates the content of the proposition to something that has been said earlier in the conversation." (Lefebvre 1998:221)

Example (71) thus has a third reading, which Lefebvre translates into English with 'actually':

(71)c Mounn nan kraze manchinn nan *an.*
man DEF destroy car DEF DEF

'Actually, the man has destroyed the car.' ((1a) in Lefebvre 1998:219)

Other examples are:

(76) Jan kònnèn fransè a.
John know French DEF

'Actually, John knows French.' ((19) in Lefebvre 1998:225)

(77) Jan rive Pòtoprens la.
John arrive Port-au-Prince DEF

'Actually, John arrived in Port-au-Prince.' ((17) in Lefebvre 1998:224)

Of course, (72) and (73) also have the reading with *la* as an "assertive marker". In this function, *la* does not force a resultative reading; the sentences can have whatever reading the (often underdetermined) verb form allows.

As far as the translations are concerned, I am not sure whether the English *actually* captures what Lefebvre describes the assertive marker as doing. But we can try to formalize the HC sentences against the background of her above quote. Here is my proposal for (77) (where *j* stands for John, and *p* for Port-au-Prince):

(77)F $\lambda s^t.\ s^r <_p s^t$ & arrive_in(j,p)(s^t)

Recall that in this reading, the whole propositional content is asserted and that no part of the described event is presupposed. The role of *la* is then to overtly link the new information to the previous discourse via $<_p$. I assume that $<_p$ is the default relation between the discourse situation (the most comprehensive accessible resource situation in a given discourse) and the topic situation of the utterance under consideration. So the form in (77)F is like an explicit rendering of what happens by default in coherent discourse. The assertive marker in HC is then a means of making discourse coherence explicit. However, there is no grammatical regularity in HC saying that every topic situation that is related to the discourse situation via $<_p$ must be marked with *la* (which would force virtually every sentence except the first in a coherent discourse to end in *la*), whereas we saw that there is an analogous regularity with respect to the situation variable of nominal predicates. This difference is presumably grounded in the fact that inter-sentential discourse coherence, as a characteristic of rational communication, is quite predictable, whereas reference to a resource situation in a noun phrase is not: Introducing a brand-new referent (not linked to a resource situation) does not constitute a rupture in discourse coherence. Therefore, *la* as an assertive marker is only used when the link between the present utterance and the discourse situation deserves special attention, e.g. when there is a sequence of two utterances which cannot so easily be understood as relating to the same discourse situation or, in general, when the speaker wants to place special emphasis on the (causal, temporal) link between the current utterance and the previous one(s). I would propose 'in that situation' as a translation of *la* as an assertive marker – which is certainly more awkward, but perhaps also more

precise than 'actually'. In spoken German, there is the discourse particle *da* (originally a form of spatial deixis), which seems to come close to the meaning of *la* as an assertive marker; consequently, (71) could be translated into natural-sounding German as follows:

(78) Da hat der Mann ein Auto zu Schrott gefahren. GERMAN
there has the man a car destroyed

Incidentally, Kratzer (2005) proposes that the particles *da* and *na* of certain Southern German dialects are "pronounced situation variables". However, German *da* works only for past events, and not for states. Thus, it could not be used in the translation of (76) in any German dialect I am aware of.

Our main interest being the noun phrase, I will now use the insights from this section on clause-level *la* for the discussion of a type of clause that interacts with nominal determination: namely, relative clauses.

4.7 Relative clause formation and the determiner

Relative clauses introduce properties of the referent of the head noun that they modify. Therefore, they can be treated as predicates in the semantics, as shown in Heim & Kratzer (1998:86ff.). Since every predicate has a situation argument, the complex predicates formed out of relative clauses do so, as well. At the same time, relative clauses contain a finite verb, and so the situation argument of that complex predicate is subject to the constraints discussed in the preceding section.

Let us start from the empirical fact that HC noun phrases modified by a relative clause have two slots in which *la* can be inserted: after the nominal core or after the relative clause. It is even possible that both slots or neither are filled in one nominal complex[71].

(79) *Linear schema for determiner placement in HC nominals modified by relative clauses*:

NP (+ DET) + relative-clause (+ DET)

That each of the four possible constellations triggers a different interpretation was first shown by Zribi-Hertz & Glaude (2007), who disambiguate the structures with Kayne's (1994) syntactic theory of relativisation. This theory posits a structure according to which both *DET*-positions in the schema in (79) can be analysed as nominal determiners. I will attempt to derive the various readings on the assumption that *la* serves as a situation shifter. The crucial position is held by the determiner after the

[71] In the present section, I will use the term "nominal core" to refer to the noun phrase with*out* the relative clause, and "the nominal complex" to the whole nominal *including* the relative clause.

nominal complex (the second *DET* in the above schema), because it can be taken by either nominal or clausal *la*.

The present theory makes the following predictions concerning the readings of HC relative clause constructions:

First option: NP + DET + relative-clause + DET

If both the nominal core and the relative clause are determined, we predict a meaning according to which both the referent in question and the property attributed to it in the relative clause are mutually known. In this case, the question might be raised as to why the relative clause is added in the first place if the referent is supposed to be retrievable by virtue of the description given in the nominal core alone. The answer is that the speaker is not completely sure whether the descriptive material given in the nominal core will actually enable the hearer to retrieve the referent and, therefore, a relative clause is adjoined for clarity. According to Himmelmann (1996), adding descriptive material to make sure that the addressee can really identify the intended referent is typical of the recognitional use of definite descriptions. Here is an example in HC:

(80) *Anana a Pòl pote a* se bèl.
pineapple DEF P bring DEF COP nice (E.F. 88.b.)

'The pineapple that Paul brought is nice.'

The appropriate context for (80) is such that the pineapple in question has already been talked about or perceived earlier, but the speaker wants to make sure that the hearer quickly retrieves the referent so that clarification questions of the sort "Which one do you mean?" will not be necessary. A typical English paraphrase for (80) could be 'The pineapple – you know, the one that Paul brought – is nice.'

Second option: NP + DET + relative-clause

If the nominal core is determined, but not the relative clause, the overall nominal complex should express that the referent of the head noun is given in the discourse situation, but not the property attributed to it in the relative clause. That is to say, the relative clause does not serve to help the hearer identify the intended referent; instead, it supplies new information concerning the referent of the nominal core. Example:

(81) Samdi dènye, manman m te kit pòmdetè. *Pòmdetè yo, ke papa m te*
saturday last mother my PST cook potato potato PL REL father my PST

achte mache, te trè bon.
buy market PST very good (E.F.83.)

'Last Saturday, my mother cooked potatoes. The potatoes, which my father had bought at the market, were very good.'

The listener will have no problem in figuring out that *pòmdetè yo* 'the potatoes' in (81) refers to the potatoes introduced in the first sentence. The relative clause *ke papa m te achte mache* 'which my father had bought at the market' does not contribute to the establishment of this anaphoric relation. The information it contains is new to the hearer, and hence it cannot be evaluated with respect to any resource situation.

Since there is no implication of familiarity in connection with bare relative clauses, definite as well as indefinites can serve as their nominal heads:

(82) Pòl vle marye ak *yon fanm ke m pa konnen*.
P want marry with INDF woman that I not know (H.I.35.b.)

'Paul wants to marry a woman whom I don't know.'

It is sometimes claimed in the literature (e.g. Damoiseau 2005) that, if the determiner is placed directly after the nominal core, the relative clause must also be determined. I suppose that this misconception is due to the fact that, in spoken language, appositives of the type seen in (81) are rather rare. Some kind of paratactic construction would normally be preferred. Nevertheless, my informants voluntarily produced examples like (81) when asked to translate sentences from French (where the distinction is not made in the same way, of course).

Third option: NP + relative-clause + DET

If the whole nominal complex contains only one determiner, namely after the relative clause, the resulting meaning can*not* be that the referent of the nominal core is not in the discourse situation (no determiner), but that the property attributed to it in the relative clause is. This would be paradoxical. Rather, we have to assume that the phrase-final *la* is a nominal determiner. What is expressed is then that the referent can be identified by the addressee, but only once he takes the descriptive content of the nominal into account. Here is an English example:

(83) *The person that you had called* was there.

It is unlikely that the addressee would be able to retrieve the intended referent solely on the strength of the description *the person*, although he is supposed to retrieve it by

taking the relative clause into account. Consequently, we expect sentences like this to have *la*-marking only after the relative clause. And indeed, the HC for (83) is:

(84) *Moun ke ou te rele a* te la.
person REL you PST call DEF PST there (Damoiseau 2005:46)

That the one determiner in this construction is really the nominal and not the clausal one is shown by its ability to pluralize:

(85) *Pòmdetè ke Kati te prepare yo* te trè bon.
potato REL Katy PST prepare PL PST very good (E.F.81.a.)

'The potatoes that Katy had prepared tasted very good.'

The clausal determiner can only appear in the singular, which can be shown by considering the "recognitional" construction again, this time with a nominal core in the plural. What we see there is that the phrase-final clausal determiner cannot agree with the nominal determiner in number; it has to remain singular, as the contrast (86)/(87) shows. This is how we can be sure that the determiner after the relative clause in (85) is really the nominal one.

(86) *Tab yo m te achte a* bèl.
table PL I PST buy DEF nice ((50) in Lefebvre 1982:44)

'The tables, which I bought, are nice.'

(87) **Tab yo m te achte yo* bèl.
table PL I PST buy PL nice ((51) in Lefebvre 1982:44)

Fourth option: NP + relative-clause

If neither the nominal core nor the head noun is determined, unambiguity cannot come about through the employment of a resource situation. By the present rationale, this means that the nominal must be functional. Such relative clauses are called "establishing" by Hawkins (1978). Their distinguishing property is that they pick out an unambiguous individual in conjunction with the head noun that they modify so that familiarity of the hearer with the referent is suspended. Hawkins' example is:

(88) What's wrong with Bill? – Oh, *the woman he went out with last night* was nasty to him. ((3.16) in Hawkins 1978:101)

This sentence is then contrasted with the following, in which the relative clause does not succeed in establishing a referent unless this referent has been mentioned before:

(89) What's wrong with Bill? – Oh, *the woman who was from the south* was nasty to him. ((3.18) in Hawkins 1978:102)

The unambiguity presupposition of (88) can be resolved with the help of the knowledge that in general, a man (here, Bill) goes out with only one woman per night. As for (89), no such inference is available, and so the relative clause can only function "recognitionally", i.e. it helps to re-introduce a certain, previously discussed referent by giving sortal information.

While (89) is clearly an instance of the structure "noun + relative clause + DET" in HC (cf. example (84) above), noun phrases based on "establishing" relative clauses are expected to be absolutely bare. This is indeed the case:

(90) *Moun ki te envante òdinatè*, se te Charles Babbage.
man REL PST invent computer COP PST C B (E.F.5.7.18b)

'*The man who invented the computer* was Charles Babbage.'

(91) Pòl monte sou *montany ki pi wo an Afrik*.
P climb on mountain REL most high in Africa (E.F.68.24.)

'Paul climbed on *the highest mountain ("the mountain which is highest") in Africa*.'

The definiteness of the head noun in (90) is guaranteed by the content of the relative clause: Things are usually invented by one single individual. *A man who invented the computer was Charles Babbage* would not be well-formed unless it has been made explicit somewhere that the computer has more than one inventor (if that's possible). In (91), the relative clause contains a superlative, which is a sort of functional expression, too. It makes sure that the referent of the whole nominal complex is unambiguous (cf. **a highest mountain*). No resource situation is necessary, and *la* does not appear.

The sequence "NP + relative clause", without a determiner, has also seldom been mentioned in the literature. Again this could be due to the rareness of this construction in everyday speech. Moreover, I have noticed that it is not even enough to construe a relative clause whose referent from the meaning of the words is unambiguous. The relative construction *the man who murdered Smith* is such that the content of the relative clause guarantees unambiguity (assuming that a single person is normally responsible for murdering another human being). Nevertheless, its HC version has the clause-final determiner:

(92) *Moun ki tiye Smith la* se yon moun fou.
person REL murder Smith DEF COP INDF person insane. (E.F. 1.23.)

'*The person who murdered Smith* is insane.'

I suspect that the reason why this sentence must have a relative clause-final determiner is the following: (92) could not be felicitously uttered if the fact that Smith was murdered was not already introduced into the discourse situation. But once it is mutual knowledge that Smith was murdered, the referent of the whole noun phrase *the person who killed Smith* is also in the discourse situation: Having been murdered entails having a murderer. The whole noun phrase in (92) is a complex inferable. As such, it must be *la*-determined (cf. section 4.5.3). In order to get a definite noun phrase with a bare relative clause, the relative clause must describe an unambiguous referent that does not presuppose episodic knowledge.

Although I used the main-clause-level event determiner to account for the facts of relative clause formation, the order of diachronic development is presumably reversed: The event-determiner in main clauses developed out of the nominal one via its use in relative clauses. According to Lefebvre (1982:54ff.), *la* was originally an exclusively nominal determiner in HC, but spread to the clausal domain in time. To appreciate the role of the relative clause in this process, recall that HC forces the determiner to appear at the very end of the nominal complex, including adjoined relative clauses. Let us look at (84) once more:

(84) *Moun ke ou te rele a* te la.
person REL you PST call DEF PST there (Damoiseau 2005:46)

'*The person that you had called* was there.'

In (84), the determiner *a* selects the nominal complex *moun ke ou te rele* 'man that you had called', but at the same time its position coincides with the right edge of a clause. Lefebvre argues that this might have motivated speakers to use the determiner not only after relative clauses (where *la* marks the right edge of the noun phrase) but also after matrix clauses, whilst preserving its discourse-linking function across the different constructions.

In conclusion, the systematic semantic effects triggered by the (non-)appearance of *la* in relative clauses further supports the theory wherein *la* is connected to the signalling of resource situations in both its uses as nominal and clausal determiner.

In the next chapter, we will look at Mauritian, a French-related creole language of the Indian Ocean variety. It will turn out that, while definiteness marking in Mauritian Creole is also sensitive to resource situations, the language moreover cares about the precise role that the resource plays in the production of unambiguity. The second parameter used in the taxonomy in 3.6 ("Is unambiguity implied by the descriptive content or not ?") will serve to capture this difference.

5. The definite determiner in Mauritian Creole

The present chapter mostly takes the shape of a comparison with HC. After presenting some general facts about Mauritian Creole (MC) in section 5.1, I sketch the structure of the MC noun phrase (section 5.2). Section 5.3 is central to this chapter; the distribution of the MC determiner is contrasted in detail with that of HC *la*, and incomplete functional descriptions are determined as the key element of contrast. The results will be synthesized in different definiteness marking rules for HC and MC (section 5.4).

5.1 The language

Mauritian Creole is the most widely spoken language on the island of Mauritius, located in the Indian Ocean, about 1 500 kilometres to the east of Madagascar. It is estimated that over 80 per cent of the 1,2 million inhabitants speak MC ("Morisyen"), most of them as a first language. Mauritius is the home of a large number of different ethno-cultural groups, the most numerous of which are the Indian-Mauritians (about two-thirds of the population), descendents from Indian indentured labourers, who, for the most part, immigrated in the 19th century. English is the official language of the state, but French, the prestige language for the majority of Mauritians, is more widespread; it is the dominant language of the media and is also used in schools. The use of MC remains mainly limited to spoken language, and there is no conventionalized orthography. (In the examples, I have assumed the orthography of my sources for the most part, and have made small adjustments only where it seemed practical.) While the concept of a creole continuum (cf. section 4.1) is traditionally also applied to MC, Adone (1994) objects to this view and maintains that it is more appropriate to assume only two varieties of MC: an urban one and a rural one, both of which can be clearly distinguished from French even in its non-standard local variety.

The island of Mauritius was uninhabited before the arrival of the European colonists. The French seized the island in 1715 after it had been populated and abandoned by the Dutch in the seventeenth century. Sugar cane plantations were established, and slaves were brought to the island, mainly from the African mainland, but also from Madagascar and the Indian subcontinent. In 1810, the French lost the island to the British in the wake of the Napoleonic wars, and the island became officially British. Creole formation was completed by that date. The first documents mentioning a creole spoken in Mauritius are from around 1770. Other French-related creoles spoken on neighbouring islands are Seychelles Creole, Réunion Creole and Rodriguan Creole.

As far as the general grammatical features of MC are concerned, there are a lot of parallels to HC: fairly strict SVO order, practically no inflectional morphology, and a vast majority of lexical items derived from French. The question of why exactly it is

that MC is so similar to HC (and the other French-related Antillean creoles) despite the vast geographical distance, has not received a conclusive answer to date. The following examination of the MC definite determiner suggests that we should reckon with the possibility that, on closer inspection, superficial similarities give way to subtle differences. Déprez (2007:271) notes that "a detailed empirical comparison of the exact conditions of use of *la* in each [French-related Creole] would be needed to further specify the precise semantic properties of this marker". The present study takes steps in that direction. Déprez (2007) is incidentally a recommendable complementary reading for those who are also interested in the syntactic properties of the noun phrase in different French-related creoles, including HC and MC (Déprez' framework is generative grammar). A useful reference grammar of MC is Baker (1972).

5.2 The structure of the noun phrase in Mauritian creole

In a way similar to my discussion of HC, I will now sketch possible noun phrase structures of MC, again divided into three classes: prenominal grammatical elements, postnominal grammatical elements, and bare nominals.

Grammatical elements preceding the noun

Almost all determinatives precede the noun phrase in MC:

– *quantificational noun phrases*:

laplipar lisien ‘most dogs’
most dog

sak soulyé rouz ‘every red shoe’
every shoe red

tu tifi avek lizie ble ‘all girls with blue eyes
all girl with eye blue

– *numerals and vague cardinalities:*

de pomdamour ‘two tomatoes’
two tomato

plizir / buku koson ‘several / many pigs’
several many pig

ant trwa ek sis simiz ‘between three and six shirts’
between three and six shirt

Again we see that there is no number marking on the noun, and that adjectives are usually post-nominal (there is a small number of exceptions in MC, too).

– *indefinite article:*

enn larou ‘a / one wheel’
one wheel

The indefinite article of MC is not formally distinguished from the numeral ‘one’. I will therefore always gloss *enn* as ‘one’ and translate it according to which English form is more appropriate in the given context.

– *possessive pronouns:*

mo / to / so / nu / zot zardin
my your his, her, its our your, their garden

‘my / your / his, her, its / our / your, their garden’

– *demonstrative determiner:*

sa lakaz la ‘that house’
DEM house DEF

Like in HC, the sole demonstrative determiner *sa* almost always co-occurs with the post-nominal definite determiner *la*.

– *plural marker:*

ban zanfan ‘some children’ / ‘the children’
PL child

The plural marker can imply definiteness on its own, without the need for the post-nominal definite determiner *la* (see below). But it is also possible for a noun phrase introduced by *ban* to receive an indefinite reading. Déprez (2007) notes that *ban* cannot normally co-occur with numerals, which shows that it competes for the same syntactic position; we may conclude that *ban* denotes a vague cardinality, comparable to English *some* or *a bunch of*. I have chosen to render indefinite *ban* as plural ‘some’ in English. Moreover, I will disregard the fact that *ban* can express definiteness on its own and concentrate on the postnominal definiteness marker, presented next.

Grammatical elements following the noun

Like HC and most other French-related creoles, MC too has the post-nominal definite determiner *la.* It is always unstressed and can never occur independently of a nominal host, which is why it can be called a clitic (cf. Syea 1996).

– *definite singular determiner:*

garaz la ‘the garage’
garage DEF

ban rob la ‘the dresses’
PL dress DEF

madam zénéré la ‘the generous woman’
woman generous DEF

pyé divan Pol la ‘the tree in front of Paul’
tree before Paul DEF

Unlike in Haitian, MC *la* is the only grammatical element following the noun. Furthermore, MC *la* has no allomorphs. Whether the preceding noun ends in a nasal or non-nasal consonant or vowel is irrelevant:

(1) fam la ‘the woman’
woman DEF

boug la ‘the man’
man DEF

lisyen la ‘the dog’
dog DEF

tifi la ‘the girl’
girl DEF

Compare this to the Haitian examples in section 4.3, examples (2).

MC *la* can combine with any of the pronominal grammatical elements that are compatible with unambiguity; with the indefinite article and vague cardinalities it is excluded. The constructions in (2) are well-formed noun phrase of MC, whereas those in (3) are not:

(2)a tu sa ban liv la ‘all these books’
all DEM PL book DEF

(2)b mo kat suval la ‘my four horses’
my four horse DEF

(3)a (*)enn zouzou la '*the a toy', (OK'the one toy')
one toy DEF

(3)b *ant trwa ek sis simiz la '*the between three and six shirts'
between three and six shirt DEF

That unambiguity is a necessary ingredient of MC *la* can also be shown by translating English indefinites:

(4) three dogs trwa lizien (*la)

Whenever *la* is added to *trwa lizien* 'three dogs', the only possible translation is with the definite article: *the three dogs*.

Bare nominals

Like in HC, MC bare argument nominals are quite frequent, and they too are comparable to English bare plurals: MC bare nominals can have either an indefinite-existential reading (5), or a generic-indefinite reading (6), or they can refer to kind-entities (7).

(5) Mo finn déza asté *koki*. MAURITIAN CREOLE
I PST already buy mussel (Carpooran 2002:62)

'I already bought *mussels*.'

(6) Kot *anglé* pasé, larzan pousé. MAURITIAN CREOLE
where Englishman pass money grow (Carpooran 2002:6)

'Money grows wherever *Englishmen* pass.'

(7) *Lyon* nepli egziste. MAURITIAN CREOLE
lion no-more exist (O.M.35.a.)

'*Lions* are extinct.'

A further peculiarity of MC nouns is that they often incorporate the remnant forms of the French definite articles.

(8)

MAURITIAN CREOLE	FRENCH
laport	la porte
door	DEF.SG.FEM. door

lapos	la poste
post	DEF.SG.FEM. post
leker	le cœur
heart	DEF.SG.MASC. heart
légliz	l' église
church	DEF.SG. church

The same phenomenon can be observed in HC, though it is somewhat less frequent there.

(9)

HAITIAN CREOLE	FRENCH
lanmou	l' amour
love	DEF.SG. love
legliz	l' église
church	DEF.SG. church

Importantly, the agglutinated ex-definite article form in the creoles has become an unanalyzable part of the noun stem, i.e. it does not convey definiteness any more. The proof is that such noun stems can be regularly combined with any kind of determiner, including indefinite articles: MC *enn légliz* 'a church / one church', likewise HC *yon legliz* 'a church'. Because of these structures, it is agreed on all counts that the French definite article did not play a role in the emergence of the article system of either HC or MC. In fact, Réunion Creole is the only French-related creole which allows its definite determiner *la* to be pre-nominal (cf. Déprez 2007:266f.).

5.3 The distribution of the Mauritian Creole determiner

In this section, I will describe the distribution of the MC definite determiner using the categories introduced in previous chapters. The aim is to establish that, on the one hand, MC is like HC in that it *la*-marks sortal descriptions and does not *la*-mark complete functional descriptions, but that, on the other hand, the two languages diverge in the intermediary realm of descriptions that lexically imply unambiguity of reference but nevertheless involve resource situations. I will then explain how the system that MC exemplifies fits in with our theoretical settings.

5.3.1 Points in common with the Haitian Creole determiner

The use of the MC determiner matches that of the HC determiner in many central contexts. Like in HC, the determiner is *present* in the following, mutual-knowledge-based contexts:

– ***Anaphorically used descriptions***

Anaphoric descriptions were analysed in section 3.3.2 as cases of unambiguous reference involving a resource situation. The resource is set up by the previous linguistic discourse in the case of anaphora. Just like its HC sibling, MC *la* is insensitive to whether the resource variable is free (10) or bound (11).

(10) Enn garson ek enn tifi ti pe lager. *Garson la* MAURITIAN CR.
one boy and one girl PST PROG argue boy DEF

ti paret an koler, *tifi la* ti res kalm.
PST appear in rage girl DEF PST stay calm (B.N.1.75.)

'A boy and a girl were arguing. *The boy* seemed furious, *the girl* stayed calm.'

(11) Plis enn kamion gro plis li kontan *kamion la*. MAURITIAN CREOLE
more one lorry big more he happy lorry DEF
(*Yanndou*: line 104/105)

'The bigger a lorry was, the fonder he was of *the lorry*.'

Once again, I will defer the discussion of indirect anaphora (a.k.a. inferables) until later.

– ***Deictically used descriptions***

Deictic descriptions refer to objects perceptible in the context of utterance. The context of utterance can be treated as a resource situation.

(12) [at the dinner table:]

Ban gadyak la byen bon! MAURITIAN CREOLE
PL starter DET very good (Carpooran 2002:82)

'*The starters* are delicious!'

– ***Recognitionally used descriptions***

Recognitionally used descriptions are used to remind the hearer of shared past experiences (linguistic or sensory) in which the so-described referent can be located. Past experiences can be modelled as another type of resource situation.

(13) *Fim ki nu gete la* en fim franse MAURITIAN CREOLE
film REL we see DEF one film French
((28) in Papen 1978:272)

'*The movie we saw* is a French movie.'

(14) Laport *lakaz ki mo ti arraze la* ver MAURITIAN CREOLE
door house REL I PST fix DEF green
(Papen 1978:596)

'The door of *the house that I fixed* is green.'

That MC must use the definite determiner in all these three "mutual-knowledge" cases speaks in favour of *la*'s indicating the relation between a resource situation and unambiguity.

Like in HC, the MC determiner is *absent* in the following contexts:

– ***Complete functional descriptions***

(15) Letah voler la vin swiy so sulye avek *latet Kassim* […] MAURITIAN CR.
when thief DEF come wipe his shoe with head Kassim
(Baker 1972:173)

'When the thief was about to wipe his shoe on *Cassim's head* […]'

(16) Zot ti tap *laport tou zinekolog dan Moris*. MAURITIAN CREOLE
they PASS knock door all gynaecologist in Mauritius
(*Yanndou*: line 2/3)

'They had knocked on *the door of every gynaecologist in Mauritius*.'

(17) *So fam* dir li: […] MAURITIAN CREOLE
his wife say him (Baker 1972:172)

'*His wife* said to him: […]'

When the head noun denotes a relation, the determiner can appear:

(18) *So kamwad la* fin fer malonet ar li. MAURITIAN CREOLE
her neighbour DEF ACC do dishonest with her
(Baker 1972:150)

'*Her friend* had cheated her.'

A peculiarity of MC is that when the argument nominal is a full noun phrase, it can also precede the functional noun; in such a case, the possessive pronoun *so* must intervene:

(19) *Mo frer so madam* in gayh en piti. MAURITIAN CREOLE
my brother his wife PST get one child
(Baker 1972:83)

'*My brother's wife* has had a child.'

– ***Kind-denoting noun phrases***

(20) *Lyon* en zanimo danzere. MAURITIAN CREOLE
lion one animal dangerous (Syea 1996:180)

'*Lions* are dangerous animals.'

– ***Proper names***

(21) *Paul* pu al *Laswed*. MAURITIAN CREOLE
P FUT go Sweden (B.N.37.b.)

'*Paul* is going to go to *Sweden*.'

Like HC, MC does not even use the determiner with proper names that require the determiner in French; *Sweden* is *la Suède* 'the Sweden' in French, but in MC we have *Laswed*, a bare proper noun. This is true even if a sortal noun introduces the proper name:

(22) Mo pasé *larivyer Tanyé*. MAURITIAN CREOLE
I pass river Tanyé. (Carpooran 2002:137)

'I passed by *the river Tanyé*.'

That MC does not use the definite determiner in all of these cases, in which, by assumption, no resource situations are involved, is even more evidence in favour of the hypothesis that MC *la* signals unambiguity in a resource situation, just like HC *la*. However, the following section presents data that call this hypothesis into question.

5.3.2 Points of divergence from the Haitian Creole determiner

The fact that the MC and HC determiner are so similar in use invites the conclusion that they share the same meaning. But there are some interesting differences between the two languages. A suggestive starting observation is that *la* is generally less frequent in MC than it is in HC. Even a superficial comparative reading of HC and MC texts quickly reveals this. There now follows an overview of six contexts I could make out in which HC and MC differ. Of these six, I consider the fourth to the sixth to be directly relevant for our topic.

1. HC but not MC can use *la* as a clause-final event determiner / assertive marker in the sense of Lefebvre (1998).
2. HC but not MC regularly uses the definite determiner after prepositions such as *in*, *at*, *to*.
3. HC but not MC uses the determiner with "absolutely unique" entities, (*the sun*, *the moon*, etc.).
4. HC but not MC uses the determiner with superlatives, *only* and *same* under the circumstances specified in section 4.5.5.
5. HC but not MC obligatorily uses the determiner in functional descriptions with implicit arguments.
6. HC but not MC uses the determiner with unambiguously denoting predicative nominals (*John is the boss*).

I am not aware of any context in which MC *does* but HC does *not* use the definite determiner. Next, I will go through the above list point by point. My eventual goal is to establish that *la* has the same core meaning in HC and MC, but that MC has an additional constraint on the use of *la* that does not exist in HC.

5.3.2.1 *la* as an event determiner

In HC, *la* can be inserted after the main predicate of a sentence, with three possible interpretations, cf. section 4.6:

(23) Mounn nan kraze manchinn nan an. HAITIAN CREOLE
man DEF destroy car DEF DEF

a) 'Actually, the man destroyed the car.' (assertive marker)

b) 'The man has destroyed the car, as we knew he would.'
(event determiner with sentential scope)

c) 'The man has destroyed the car, as we knew it would be destroyed.'
(event determiner with scope over the object)

((1) in Lefebvre 1998:219)

No corresponding construction is found in MC. In other words, MC *la* is limited to the nominal domain. In section 4.7 I mentioned Lefebvre's (1982) theory according to which the clausal use of HC *la* developed out of its use in relative clauses where *la* also occurs phrase-finally. In principle, MC has the same preconditions as HC regarding the availability of this assumed bridging structure. The following illustrate this:

(24)a Mo kontan *liv ki to pe lir la.* MAURITIAN CREOLE
I like book REL you PROG read DEF (O.M.60.a.)

'I like *the book that you are reading*.'

(24)b *Pwasô ki to pe frikase la* pa bô. MAURITIAN CREOLE
fish REL you PROG stew DEF not good
((13c) in Seuren 1990:815)

'*The fish that you are stewing* is no good.'

(24)c Mo kon *ban dimun ki ti vini la.* MAURITIAN CREOLE
I know PL people REL PST come DEF
((34a) in Syea 1992:78)

'I know *the people who came*.'

Now, while Lefebvre's theory seems to be a plausible account of the gradual spread of HC *la* (backed up by the author through historical data), it is also clear that it by no means circumscribes a necessary development. MC has stuck to the nominal use of the definite determiner, and, to my knowledge, so have most other French-related creoles. While (24) shows that MC does have the structure paving the way for clause-level *la* at its disposal, it has evidently not (yet?) exploited it in the way HC has.

5.3.2.2 Prepositional phrases

In HC, definite prepositional objects are determined according to the same rules that go for subjects and direct objects. Thus, if a preposition is followed by a sortal definite description, the determiner is inserted. The most frequent spatial preposition of HC is *nan*, which can mean *at*, *in*, *into*, *to*, or *towards*. Here, first, are some HC sentences:

(25)a Pòl pa wè mouton *nan pak la*. HAITIAN CREOLE
P not see sheep in shed DEF (H.I.21.a.)

'Paul didn't see any sheep *in the shed*.'

(25)b Jak *nan lakou a*. HAITIAN CREOLE
J in courtyard DEF (Damoiseau 2005:80)

'Jack is *in the courtyard*.'

(25)c Senk sòlda antre *nan ba a.* HAITIAN CREOLE
five soldier enter in bar DEF (E.F.29.b.)

'Five soldiers entered *the bar*.'

(25)d M telefonnen w paske gen yon ti pwoblèm HAITIAN CREOLE
I telephone you because exist INDF DIM problem

ak pitit ou a.
with kid your DEF (Fattier 2006:95)

'I'm calling you because there is a minor problem *with your kid*.'

There are also examples in which the noun after a preposition remains bare, although the English translation uses a definite:

(26) Li pral lave *nan rivyè*. HAITIAN CREOLE
he PRSP wash in river (Fattier 2006:34)

'He is going to do the washing *by the river*.'

In this case, the determiner is absent because no particular situation has been introduced in which the river is supposed to be located. Roughly speaking, the river is part of the activity that the verbal complex denotes, not an independent referential constituent. It does not matter which river the referent of the subject pronoun is going to do the washing in; consequently, no particular river must have been previously mentioned for (26) to be interpretable. While it is not trivial to say how this type of definiteness (also in English) should be accounted for under a uniqueness approach, it is obvious that no resource situation is needed to interpret it; therefore, *la* is absent in (26).

In MC, the situation is different. More often than not, the definite determiner is absent in prepositional phrases, regardless of whether the embedded noun phrase denotes a particular object or not:

(27) Mo ti envi rant *dan lakaz.* MAURITIAN CREOLE
I PST want enter into house. (O.M.21.)

'I wanted to enter / '*go into the house*.'

(28) Pol pa inn truv muton *dan park.* MAURITIAN CREOLE
P not PST see sheep in shed. (B.N.21.a.)

'Paul didn't see any sheep *in the shed.*'

(29) Ena enn ver *lor latab*. MAURITIAN CREOLE
have one glass on table (Carpooran 2002:31)

'There is a glass *on the table*.'

(30) Vel zet so lekor *lor sime*. MAURITIAN CREOLE
V throw his body on road (Baker 1972:189)

'Vel lay down *on the road*.'

(31) To dibut *divan fenet*. MAURITIAN CREOLE
you stand before window (Baker 1972:202)

'You stand *in front of the window.*'

However, dropping the determiner after prepositions is not a grammatical requirement, either, as the following examples show:

(32) Li rant *dan bazar la*. MAURITIAN CREOLE
he enter in market DEF (Baker 1972:176)

'He entered / *went into the market*.'

(33) Nu desid pu al enn wiken pu pas enn lanwit MAURITIAN CREOLE
we decide for go one weekend for pass one night

lor montany la.
on mountain DEF (Baker 1972:180)

'We decided to go for a weekend, spending one night *on the mountain*.'

These examples are from Baker (1972); in the data collected form my own informants, I did not find a single instance of a definite determiner after a preposition. I cannot give an explanation for this peculiarity of MC here. At any rate, the determiner-drop after prepositions in MC is not conditioned by the referentiality status of the noun phrase in

question. In some languages, including English, definite article drop is sometimes possible when the noun phrase has a general reading; thus *John went to prison* means that John was imprisoned, whereas *John went to the prison* means that John went to a particular building. But at least (27)-(29) show that noun phrases referring to particular objects can also be affected by determiner drop in MC. I will assume that the determiner of ordinary sortal definite descriptions may be phonologically deleted in MC prepositional constructions and leave the question of why this is so to future research.

5.3.2.3 "Absolutely unique" entities

The list of expressions denoting absolutely unique entities becomes relatively short if instantly recognizable proper names are left out of the picture. What remains are, for the most part, cosmonyms (*the sun*, *the moon*, *the earth*, *the cosmos*) and nouns for meteorological and other natural phenomena (*the weather, the sky*, *the air*). All of these are *la*-determined in HC, as we saw in section 4.5. The MC versions are bare:

(34) *Later* turn otur soley. MAURITIAN CREOLE
earth revolve around sun (O.M.49.)

'*The earth* moves around the sun.'

(35) Zot pa kapav ranz enn ti lakaz pou kasyet MAURITIAN CREOLE
they not can arrange one DIM house for hide

soley ek *lapli*.
sun and rain (Baker 1972:165)

'They couldn't afford a little hut to shelter them from *the sun* and *the rain*.'

(36) Ban astronot ti pu al *lalin* san ku la. MAURITIAN CREOLE
PL astronaut PST IRR go moon DEM time DEF
(Baker 1972:110)

'The astronauts would have reached *the moon* this time.'

Can this divergence between MC and HC be explained? – In section 4.5.1.1, I proposed that HC uses the determiner with absolutely uniquely denoting noun phrases because they signal to the hearer that mutual knowledge is necessary for their interpretation. In the case of absolutely unique entities, this knowledge pertains not to any particular situation, but to the world, i.e. to the most comprehensive situation that there is. This is one way of conceptualizing the uniqueness / unambiguity implications of such noun phrases, one which sees them as the limiting case of resource-dependent reference. The alternative to this view emphasizes the proximity of these expressions to proper names. According to the Millian / Kripkean doctrine, proper names do not pick out their

referent by way of describing an individual, but rather through a direct, causal link between the sign and the referent. This means that even though there may be many individuals called *John* around, there is only one single historical convention that is being activated by any given tokening of *John*. Therefore, even multiply assigned names such as *John* denote unambiguously because the sign *John* is a homonym subsuming every *John*-convention in existence. Since *John* is not (made up of) a predicate on this view, there is no place for a situation parameter in its logical form, either. And indeed, as we saw, neither HC nor MC use the situation-shifting *la* with proper names. Noun phrases such as *the sun* or *the moon* have in common with proper names the idea that, despite the possibility or fact of there being more than one referent singled out by that designation, we use them as if there weren't because we are sure that our addressee will pick up the right linguistic convention anyway. The fact that there are many suns, and many Johns, can be suppressed in communication to such a degree that the expressions come to be treated as denoting in an absolutely unique manner. These performance-guided considerations can solidify in the grammar, so that even a noun phrase that may have started out as a predicate, like *the sun*, is prevented from being determined. I assume that such is the case in MC. As a consequence, the difference in determination that we perceive between HC and MC where absolutely uniquely denoting expressions are concerned does not stem from a difference in meaning between the HC and MC determiner, but rather from the oscillating semantics of the corresponding nouns, which are name-like in some respects and description-like in others. In this connection, it is telling that noun phrases like *the sun* are equally well integrated into a familiarity framework or a uniqueness framework: While the familiarity theorist can point out that *the sun* is definite because everyone is familiar with the referent, the uniqueness theorist can refer to the fact that the sun is unique in our solar system, hence the definiteness. In a sense, then, both positions are correct, and which reasoning applies may have to be decided with respect to the language under consideration. Of course, the matter cannot ultimately be settled unless one is lucky enough to be dealing with systems sensitive to the distinction in question, like HC and MC.

One cosmonym to which the above remarks do not apply as well is *the earth*, *tè a* or *latè a* in HC, *later* in MC. Supposedly, while we are prepared to accept the existence of many suns and many moons, in accordance with the experts' definitions and discoveries, there is really only one earth, even if we were to discover a planet maximally similar to ours. The reason why it is nevertheless used with a determiner in HC (and many other languages) is possibly that *tè* is ambiguous between a name for the planet, and a predicate meaning 'ground' / 'soil' – just as it is in English. The (mass-like) predicate meaning is applicable to multifarious referents; even on the moon an object can "hit the earth". The presence of this descriptive component in *earth* could be the reason why it has not become a proper name in HC. In MC, it might well be one.

5.3.2.4 Adjectival modifiers

We saw in section 4.5.5 that in HC, noun phrases including adjectival *only*, *same* and superlative adjectives take the determiner depending on where their unambiguity implications are satisfied. The corresponding constructions turned out to fall under the same generalization that describes the use of the determiner in any other definite description of HC. We distinguished between an internal and an external reading of *same*, and between complete and incomplete noun phrases containing *only* and superlatives. The former do not take the determiner in HC, the latter do. In MC, the situation is simpler, as none of the above modifiers ever requires the determiner, no matter which reading is under consideration:

"sel" ("only")

In HC, the distinction between the external and internal readings of *only* is marked by the presence or absence of the determiner, respectively. In MC, noun phrases with *only* never take the determiner, no matter whether they have an internal (37) or external (38) reading:

(37) Li sir aster ki taler li pou rezwenn *sel zom* MAURITIAN CR.
she sure then COMP presently she IRR meet only man

ki finn fer li santi lavi enn gran kado, ki lamor pa ve dir separasion.
REL PST make her feel life one big gift COMP love not want say separation
(*Tizistwar 2*: tale 19, line 50f.)

'At that moment she was sure that she would meet *the only man who could make her feel that life was a great gift, that love did not mean being separated*.' (internal reading)

(38) Misie ek Madam Kamanber, de fami prop, ti ena MAURITIAN CR.
Mr and Mrs. K of family decent PST have

enn tifi ki tou dimoun dir ti tas lor poto. […] *Sel eritier*
one daughter REL all people say PST attach on pole only heir

enn fortinn enorm me pa zoli ditou.
one fortune enormous but not pretty at-all (*Tizistwar 1*: tale 12, lines 58-60)

'Mr. and Mrs. Kamamber, of good family, had a daughter of whom everybody said that she was beaten on the finishing line. […] *As the only [sole] heir*, she had an enormous fortune, but she wasn't pretty at all.' (external reading)

Superlatives

In HC, *la* determines a noun phrase including a superlative adjective if the domain relative to which the referent is maximally *d* is partly or wholly specified outside of the same minimal clause; otherwise, the noun phrase stays determiner-less. In MC, the mere appearance of a superlative is enough to make the noun phrase appear bare:

(39)a *Pli bon zelev dan mo klas* pu gany enn rekompans. MAURITIAN CR.
most good pupil in my class FUT get one reward
(O.M.52.a.)

'*The best pupil in my class* will be rewarded.'

(39)b Dan mo klas, *pli bon zelev* pu gany enn rekompans. MAURITIAN CR.
in my class most good pupil FUT get one reward
(O.M.52.b.)

'In my class, *the best pupil* will get a reward.'

In (39)a, unambiguity is guaranteed noun phrase-internally, and there is no determiner, as expected. In (39)b, unambiguity is only achieved once the topicalized constituent *in my class* is taken into account. Since the topicalized constituent is outside of the minimal clause, this is enough to make the appearance of the determiner obligatory in HC. Not so in MC, where the noun phrase remains determiner-less all the same. The following is another example where HC would have to use the determiner:

(40) Twa akoz to *pli vye*, mo don twa mo mulan. MAURITIAN CREOLE
you because you most old I give you my mill
(Baker 1972:51)

'To you who is *the eldest*, I give my mill.'

And another MC sentence with two superlative-like incomplete descriptions, viz. ordinals:

(41) *Premie desen* korek me *deziem* enn flop. MAURITIAN CREOLE
first drawing good but second one flop
(*Zistwar Ti-Prens*: 6)

'*The first drawing* was good, the *second one* was a flop.'

In (41), the noun phrases refer to drawings integrated in the written text, which makes them like discourse-deictic expressions. At any rate, the unambiguity presupposition of the noun phrases in (41) must be resolved with the help of information from outside the

minimal clause ("the first / second drawing relative to what ordering?"), and would therefore require the determiner in HC, whereas these phrases remain bare in MC.

"mem" ('same')

In HC, the same internal-external distinction that is made with *only* also shows up with *same*. As expected by now, MC noun phrases with *same* never take the determiner, regardless of whether the reading is internal (as in (42)), or external (as in (43) and (44)):

(42) Alor nu ekrir kam (franse 'camp') parski ena *mem rasin* MAURITIAN CR.
so we write 'kam' French 'camp' because have same root

dan kampe ek kampman.
in 'kampe' and 'kampman' (Baker & Hookoomsing 1987:7)

'So we wrote 'kam' (French 'camp') because 'kampe' and 'kampman' have *the same root*.' (internal)

(43) Li ti repet *mem parol*. MAURITIAN CREOLE
he PST repeat same speech (*Zistwar Ti-Prens*: 2)

'He repeated *the same words*.' (external)

(44) Pol fin tom amoure en zoli tifi. MAURITIAN CREOLE
P ACC fall in-love one nice girl

Malerezman Banzamin fin tom amure *mem tifi*.
unfortunately B ACC fall in-love same girl (O.M.5.1.)

'Paul fell in love with a beautiful girl. Unfortunately, Benjamin fell in love with *the same girl*.' (external)

All these divergences go against the hypothesis that the determiner of HC and MC share the same semantics. For HC, the guiding assumption was that whenever the retrieval of an unambiguous referent requires information contained in a resource situation, this must be signalled through the determiner. The same cannot be true for MC, as the above examples make perfectly clear. The fact that in MC *the only*, *the same* and superlatives are never *la*-marked suggests that there is something about the resulting noun phrases that trumps the requirement to signal resource domains in MC. I propose that the relevant principle can be captured with the help of the second parameter that I used to classify definite description types in section 3.6 besides the activation of a resource situation, viz. "Is it guaranteed by the descriptive content alone that reference is unambiguous?" If this question is answered in the affirmative, definiteness marking in

MC will be suppressed. With regard to the modifiers just discussed, even if we do not know relative to which domain a given *x* is the only *x*, the best *x* or the same *x*, we do know that *once this domain is provided, the referent will be unambiguous in this domain*. This results from the meaning of the words *only*, *same* and the morpheme expressing the superlative (recall the ungrammaticality of **an only pupil*, **a same pupil* and **a best pupil*). As a result, the distinction between internal and external or complete and incomplete readings for said modifiers has no morphological effect in MC. But note, also, that we can still account for why MC needs the determiner in the contexts listed in section 5.3.1, i.e. when anaphoric, deictic or recognitional definite descriptions are under consideration. All of these are built from sortal nouns only and do not contain an unambiguity-implying modifier. Consequently, there is nothing about the descriptive material that could guarantee unambiguity. Bare sortal nouns such as *garson* 'boy' or *kamion* 'lorry' can be used in indefinite noun phrases just as well as in definite ones (*a boy*, *many lorries*, etc.). With such nouns, the determiner must be used in MC. This analysis allows us to keep up the assumption that *la* signals a resource situation in MC, too. But unlike in HC, the presence of a resource situation is only necessary, not sufficient for the appearance of the determiner in MC, because MC definiteness-marking is governed by a rule that suspends the need to mark a resource situation if unambiguity is already implied on the lexical level. I will take this rule into consideration when formulating language-specific rules of definiteness-marking later on in the chapter.

5.3.2.5 Functional descriptions with implicit arguments

In HC, functional descriptions with implicit arguments differ from those with explicit arguments in that the former require, while the latter do not allow a determiner. I have traced this difference to the presence of an embedded silent sortal description in functional descriptions with implicit arguments. MC differs from HC in that functional descriptions with implicit arguments do not require a determiner:

(45) Mo fin visite enn lavil dan provins. *Lameri* ti MAURITIAN CREOLE
I ACC visit one village in province town-hall PST

pli ot ki *legliz*.
more high than church (O.M.22.)

'I visited a village in the province. *The town hall* was higher than *the church*.'

(46) Dans sa fami la, *mama* ki komande. MAURITIAN CREOLE
in DEM family DEF mother REL command (B.N.25.)

'In this family, it is *the mother* who wears the trousers.'

(47) En vye bonfam katrevaneonz an ape repos MAURITIAN CREOLE
one old woman ninety-one year PROG relax

dan so lakaz Kat Koko dimanz pase. [...]Ver dizer aswar
in her house K Sunday past about ten o'clock evening

li tan *laport* tape.
she hear door knock (Baker 1972:52)

'An old woman aged ninety-one was relaxing at her house in Quatre Cocos last Sunday. […] About ten o'clock in the evening, she heard a knock at *the door*.'

I propose that this difference between MC and HC is basically the same as that which we observed in connection with *only*, *same* and superlatives: Insofar as the head nouns of the italicized descriptions in (45) - (47) are functional, they guarantee the unambiguity of their external referent *for any given assignment of the implicit argument*. On the present approach, the assignment consists in giving the situation variable of the implicit description (the argument of the functional head noun) a suitable value. This will result in an unambiguous argument relative to which there is only one church, mother, door etc. Again, we see that unlike in HC, the presence of a resource situation in the logical form of a sentence does not need to be signalled in MC when a description denotes unambiguously, thanks to its descriptive content.

However, as far as functional descriptions with implicit arguments are concerned, this generalization about the absence of *la* cannot be regarded as a hard-and-fast rule. In the following examples, the determiner is used with inferables:

(48) Li fin kontan liv la ek aster li envi zwen *loter la*. MAURITIAN CR.
she PST love book DEF and now she want meet author DEF
(O.M.2.8.)

'She was fond of the book and now she wants to meet *the author*.'

(49) Sa lakaz la bjin neglize. *Proprieter la* bizin pa la MAURITIAN CR.
DEM house DEF very neglected owener DEF must not there

depi lontan.
since long (B.N.32.)

'That house is very run-down. *The owner* must have been absent since long.'

(50) Dousman, Gregor, ar led sez la ti avans […] MAURITIAN CREOLE
slowly G with help chair DEF PST move

ver laport. Li ti repoz en pe pou repran so souf e lerla
towards door he PST recover one bit for catch his breath and then

koumans sey tourn *lakle la* ar so labous.
begin try turn key DEF with his mouth (*Metamorfoz*: 8)

'Gregor slowly moved towards the door with the chair […]. He rested a little while to catch his breath and then tried to turn *the key* with his mouth.'

These examples make it obvious that the determiner after functional descriptions with implicit arguments is by no means ruled out in MC. Although my impression is that they are, for the most part, bare, I discovered examples where the determiner is used in different texts, and elicited them from all my informants, so I do not think that these cases should be cast aside as exceptions. What is going on, I presume, is that functional descriptions with implicit arguments do not always wear their unambiguity on their sleeves as clearly as our theory would have it; this is because many nominal predicates can in fact be employed sortally *or* functionally. For instance, if the speaker is talking about her visit to an old little village, chances are that the noun *church* will be used functionally. But if her visit led her to several villages, she can report on her visiting *three churches*, thus turning the head noun into a sortal use just like that. Likewise, the generic "house"-situation includes a single most salient door, but if one walks around a house, one will often find *another door*. Similar considerations apply to many other concepts described above as functional and thus inherently unambiguously-denoting. Functional descriptions only become clearly unambiguous when their (singular) internal argument follows them overtly. Thus, *A door of the house was locked* is seriously odd without heavy contextual adjustment, just like *We walked towards a church of the village*. Under the (phonological) absence of an internal argument, the functionality is harder to perceive. I propose that it is for this reason that *la* is sometimes used with indirectly anaphoric definite descriptions in MC. To repeat, the decisive question with respect to definiteness marking in MC is: Is it made sure by the descriptive content alone that the denotation is unambiguous? Since there is often no immediate answer to this question where functional descriptions with implicit arguments are concerned, a certain variability in the use of the determiner is expected. What is important, however, is that to the best of my knowledge, the determiner *must* be used with these descriptions in HC, whereas in MC it need not. This means that the determiner is more grammaticalized in HC, in the sense that there is a semantic-pragmatically definable context in which its use is obligatory in HC but not MC (recall that the determiner is obligatory in both languages in the directly anaphoric, deictic, and recognitional use).

5.3.2.6 Predicate nominals

In HC, the determiner is obligatory in definite predicate nominals:

(51) Jan se *bos la.* HAITIAN CREOLE
J COP boss DEF ((10a) in Lefebvre & Lumsden 1990:766)

'John is *the boss*.'

(52) Janèt se *champjon an*. HAITIAN CREOLE
J COP champion DEF (E.F.118.15)

'Janet is *the champion*.'

In contrast, MC definite predicate nominals generally lack the determiner:

(53) Ziles *presidan*. MAURITIAN CREOLE
Z president (O.M.6.b.)

'Jules is *the president*.'

(54) Ondire li vine *mari-lakaz*. MAURITIAN CREOLE
as-if she become superior-house
(Ludwig et al. 2001:215)

'It is as if she were *the patriarch.*'

On closer inspection, we do not need a separate explanation for this difference: Definite predicate nominals are, generally, functional descriptions. The corresponding sentences equate the subject, an individual, with the value of that function. Sortal descriptions usually do not serve as nominal predicates; if they do, they need a particular context that accounts for the unambiguity implication:

(55) (?) Janet is the girl.

(56) (?) This is the tree.

Consequently, the difference between HC and MC where predicate nominals are concerned is the same we observed in connection with argumental functional descriptions with implicit arguments. Predicational or argumental status has no bearing on the rules of definiteness marking in the two languages. If we complete a definite predicate nominal in HC descriptively, the determiner disappears, as expected from the findings of section 4.5.2:

(57) Kreyòl ak franse, se *lang ofisyèl Repiblik d Ayiti*. HAITIAN CR.
Creole and French COP language official Republic of Haiti
(*Konstitisyon Repiblik d'Ayiti*: chapit 1, nimewo 5)

'Creole and French are *the official languages of the Republic of Haiti*.'

5.4 Discussion

The comparison of the HC and MC determiner has revealed that while the two languages behave identically in many central contexts, there are also some points of divergence, a subset of which − unambiguity-implying modifiers, functional descriptions with implicit arguments, and predicate nominals − are of particular interest for the present study: These suggest that definiteness marking in MC is governed by a slightly more restrictive principle than in HC. My proposal is that the relevant additional factor for MC is whether unambiguity can be read off of the descriptive content alone or not. If it can, the description will generally be unmarked; if it can't, it must be marked. That things are ordered in this way is certainly not arbitrary: If a language has the option of omitting a definiteness marker at all, it is more reasonable that this option will be exploited in cases where definiteness can be inferred from the nominal content alone, and that the marker will be used in cases where it cannot, rather than the other way round.

The graph in (58) below is another way of making the difference between HC and MC explicit. Our inventory of description types is listed in a linear order, and the cut-off points for definiteness marking in HC and MC are indicated below the listing.

(58) *Comparison of definiteness marking in HC and MC descriptions*

sortal with resource	functional with resource	complete functional	kind-denoting

---------- *domain of definiteness marking in HC*

---------- *domain of definiteness marking in MC*

We see that HC and MC choose adjacent cut-off points on the list and that the contexts in which MC marks definiteness are correctly displayed as a subset of those in which

HC uses it. We can now formulate language-specific rules of definiteness marking in the following way:

> *Definiteness marking rule for Haitian Creole:*
> Mark definite whenever unambiguity holds in a resource situation.

> *Definiteness marking rule for Mauritian Creole:*
> Mark definite whenever unambiguity holds in a resource situation and is not guaranteed by the descriptive condition.

The next chapter will elaborate on the meaning and use of kind-denoting expressions. These will enrich our typology of definite descriptions, and the definiteness-marking facts in HC, MC and English, in particular, will help us to unearth yet another manner in which the situation argument of a nominal predicate can be integrated into the noun phrase.

6. Kind-denoting definite descriptions

In this chapter, I will discuss the semantics of descriptions denoting kind-entities, which must be set off from both the sortal and functional types. I think it is fair to say that when theories of definiteness were developed, kind-denoting descriptions played at most a marginal role. Thus, none of the theories discussed in section 2.1 (keywords: uniqueness, familiarity, salience, and functionality) initially recognized kind-referential expressions as a separate category; there have, however, been efforts to integrate them for every one of these theories. My approach here is to accept kind-denoting descriptions as a basic type, having the same status as the object-level description types. As before, the definition of this type will rely on the specific way in which the domain parameter of the noun phrase contributes to its referential properties.

A lot of scientific effort has gone into the comparative investigation of kind-denoting descriptions in recent years, thus enabling me to be rather succinct in the exposition. In sections 6.1 and 6.2, I will present Carlson's (1977) and Chierchia's (1998) approaches to kind reference, respectively; section 6.3 is pivotal in this chapter, as it integrates kind-denoting descriptions into the system of definite description types developed so far. In section 6.4 I will introduce "taxonomic descriptions", another expression type with which kinds can be designated, and delimit these from kind-denoting descriptions in the sense we are basically interested in here, and summarize the findings.

6.1 Carlson's (1977) theory of kind reference

An influential theory of kind-reference was advanced by Carlson (1977). The basic idea here is that kinds are objects of sorts, and that languages have terms with which to refer to these objects. Carlson confined his theory to English where he identified bare plurals as the expression type with which speakers refer to kinds. In favour of this claim, he presents examples like the following:

(1)a *Horses* are widespread.

(1)b *Horses* are extinct.

(1)c *Horses* are indigenous to eastern Chile. ((2a-c) in Carlson 1977:414)

It is assumed that the predicates *be extinct*, *be widespread* and *be indigenous to eastern Chile* all select for kind-level entities as subjects: No single horse individual can be extinct, widespread or indigenous to eastern Chile. The well-formedness of (1)a-c goes to show that bare plurals can refer to kinds. Carlson proposes that English bare plurals

are simply proper names for kinds, just like *Gregory* is a proper name for a person. He accordingly formalizes sentences like (1)a as follows:

(1)aF extinct (HORSE)

where *HORSE* is a term standing for the horse-kind. (1)a-c thus all represent atomic sentences with simple subject – predicate structure.

An advantage of Carlson's proposal is that it offers an explanation for why English bare plurals are *bare*: This is just the shape of English proper names in general:

(2) (*The) John is sick again today.

On the downside, it is not so clear why English needs to *pluralize* bare kind-denoting descriptions built from count nouns. The following is clearly ungrammatical:

(3) **Horse* is extinct.

but the need for plural morphology is certainly not a general requirement for proper names in English. On the contrary, prototypical bare proper names can hardly be pluralized:

(4) ??**Johns* are sick again today.

Next, I will present a theory in which the premises are the mirror-image of those of Carlson: The plural requirement is easily accounted for, whereas the bareness topic needs some special provisions. This is the theory of Chierchia (1998).

6.2 Chierchia (1998): kinds as concepts

Chierchia calls his approach "Neo-Carlsonian", although he does away with the notion that bare plurals (in English or otherwise) are proper names. For Chierchia, kind-denoting expressions have a predicative core, and the referential and predicative aspects of noun meanings are connected to each other via a set of basic semantic procedures. The interesting thing now is how these procedures are fleshed out.

Chierchia first calls to mind the intuitive relationship between properties on the one hand and kinds on the other: If we know that there is such a thing as a horse-kind, we also know that certain objects, actual or possible, must have the property of being a horse (or horses). Conversely, if we know that certain objects have the property of being a horse (or horses), we also know that there is a horse-kind. In semantic terms, a property *P* equals (a function from situations into) the set of all individuals to which *P*

applies. To make an entity out of this − something that can be an argument of a verb –, we only need to fuse these single individuals into one big sum individual. This is the sort of operation that *iota* is responsible for, of course. Formalizations of kind-denoting expressions end up looking like this:

(5) kind-terms after Chierchia (1998:351):
λs.ιx. P(x)(s) (*with* P *a property of plural individuals*)

if λs.ιx. P(x)(s) *is in* K, *the set of kinds; undefined otherwise*

The above clearly represents a definite description by our standards: It has a predicative core, and it has unambiguity implications thanks to the presence of *iota*.[72] Consequently, kind-denoting expressions are well within our scope of enquiry. Let us immediately compare (5) with our familiar *iota*-terms. Earlier, we had structures like the following:

(6) iota-terms after section 3.5.1:

ιx. P(x)(s^r) (*with* P *a property*)

Let us go through the differences between (5) and (6). First, the *iota*-term in (6) has no additional constraints to obey,[73] whereas there are two such constraints in (5): *P* must be a plural property, and the whole term must pick out an individual from *K*, the set of kinds. What *is* in *K* is defined by the model, in which kind-individuals form a sub-set of the set of individuals. This is as in Carlson (1977), but in Chierchia's theory these kind-individuals are not accessible by proper names. The condition that the denotations produced by the term in (5) must be in *K* makes sure that a term built along the lines of (5) will indeed pick out an entity that speakers agree to call a kind − for instance on the grounds of its exhibiting a sufficiently regular behaviour. As will become clear shortly, on the basis of (5) one could construct an entity whose English designation would be *parts of that machine* but, intuitively, we do not want to call that entity a kind, and the condition that the correlates of (5) be in the pre-defined set of kinds can guarantee this. The plural requirement for *P* will be discussed in a moment. The most important difference between (5) and (6) is that the situation parameter is λ-abstracted in (5) while, in (6), it is set to a resource situation. This is essentially what sets off sortal descriptions referring to ordinary individuals from kind-denoting descriptions: The former pick out the maximal individual that is *P* in a contextually established domain, whereas the latter stand not for individuals but concepts: functions from situations to maximal *P*-individuals. The idea is, thus, that a kind can be equated with the sum of its instantiations in all possible situations. For instance, utterances about horses as a kind, such as those in (1) above, are independent of how things stand with horses in this or

[72] From the definition of the *iota*-operator in section 2.1.2, it follows that Chierchia should have used *sigma* instead of *iota*: Only *sigma* can maximize plural properties. But since Chierchia's notation has been adopted unaltered by the subsequent literature, I will stick with it, too.
[73] Whatever constraints there may be are brought into play by the resource situation.

that contingently provided topic or resource situation, and the form in (5) guarantees this. The following is a sample formalization for a sentence including a kind-denoting description:

(7) Dodos are extinct.

(7)F $\lambda s^{t}.\ \underbrace{\text{extinct}}_{\textit{predicate}}\ (\underbrace{\lambda s'.\iota x.\ \text{dodo}(x)(s')}_{\textit{argument}})(s^{t})$

We see that the kind-concept survives the compositional process unaltered. The situation variable of the *iota*-term stays unaffected because it is bound noun phrase-internally. (I chose to write *s'* for situation variables that must remain uninstantiated.) The predicate *be extinct* is of the type that requires a concept as an argument. An ordinary individual as an argument would violate its selection restrictions: **John is extinct*.[74]

If it is correct that the situation parameter of kind-denoting expressions is bound inside the noun phrase, the prediction is that they cannot interact with modal expressions any more. We can test this prediction. In section 3.2, I motivated situation arguments with nominal predicates by giving examples that were ambiguous between a reading on which the noun phrase is evaluated relative to the discourse situation, and a reading on which it is evaluated relative to a newly introduced hypothetical situation, like in (8):

(8) Lisa dreamt that *every semanticist* travelled to Italy.

We saw earlier that (8) is ambiguous between a statement about every person that happens to be a semanticist in the actual world, and one about every semanticist in Lisa's dream world, and that the two readings can be derived on the assumption that the situation parameter of the noun *semanticist* can either be bound by the verb *dream*, or be set to the world of utterance. If, instead of a quantificational expression, we place a kind-denoting one in the scope of the attitude verb *dream*, the ambiguity is expected to disappear, because the modal parameter of the kind-denoting expression is *ex hypothesi* not manipulable.

---

[74] While it is very clear that dedicated kind-level predicates such as *be extinct* are not compatible with object-level arguments, it is less obvious whether individual-level predicates are incompatible with kind-denoting arguments; witness the following:

(i) *Potatoes* were introduced into Europe in the 16th century.

We have here what is called an "avant-garde-reading" of the kind-denoting *potatoes*. The property of having been introduced into Europe in the 16th century is attributed to the kind as a whole although literally speaking it merely applies to a certain amount of individual instantiations of the kind. This reading is feasible if the property in question is judged sufficiently important for the way in which we conceptualize a kind. I suppose that in such cases the verb shifts its basic denotation (individual-level) to be compatible with a kind-level argument.

(9) Lisa dreamt that *pigs* had wings.

And indeed, no ambiguity can be detected in (9). This finding supports a treatment of kind-denoting expressions along the lines of (5).

Now let's come to the question – not spoken to by Carlson (1977) – of why *P* has to be a property of plural entities for (5) to result in a proper kind-denoting description. This, according to Chierchia, has to do with our very notion of a kind. A kind is an entity which has – at least potentially – a plurality of instantiations. Otherwise we would not call it a kind. For instance, *Gennaro Chierchia* does not denote a kind, because in every situation there is only one individual bearing this name. Likewise, the property 'horse' denotes a property of atomic individuals (cf. section 2.1.2), and so there is no possibility to make a kind-entity out of this property. Only if the associated property has non-atomic individuals in its denotations (like *horses* does) can we construe a corresponding kind – whence the need for plural marking on kind-denoting bare plurals in English.

It might be objected that this leaves unexplained the fact that bare singulars are also ruled out in English in contexts where they do *not* refer to kinds but, rather, to function like indefinites:

(10) *Gareth rode *horse* / ^{OK}Gareth rode *horses*.

(11) **Horse* eats maize. / ^{OK}*Horses* eat maize.

This fact can be explained in both Carlson's and Chierchia's theory, namely on the assumption that bare nouns like those in (10) and (11) are derived from their kind-level reading via a semantic process. Chierchia calls this process "Derived Kind Predication". It shifts kind-denotations of the type shown in (5) back to property denotations, and an existential (in (10)) or generic (in (11)) quantifier over ordinary individuals can subsequently apply.

Here is how the rule of "Derived Kind Predication" is defined for the existential case in Chierchia (1998:364):

> "If *P* applies to objects and *k* denotes a kind, then:
>
> $P(k) = \exists x\, [^{\cup}k\,(x)\ \&\ P(x)]$"
>
> (where '$^{\cup}$' is the operator that strips down a kind-individual into the set of its individual instantiations).

According to Chierchia, "Derived Kind Predication" applies automatically when there is a sortal mismatch between a predicate and one of its arguments. Dayal (2004) derives a typological universal from this proposal by stating that, whenever a language allows

bare nominals to be interpreted as indefinites, this interpretation is derivative of a more basic kind-referential meaning.

Let us now see how "Neo-Carlsonianism" ties in with visible noun phrase structure in the creoles, and English.

6.3 Kind-denoting descriptions in creole and English

I repeat here examples from HC and MC showing that kind-denoting descriptions are bare in these languages:

(12) *Elefan* ap vin ra. HAITIAN CREOLE
elephant IPFV become rare ((1d) in Déprez 2005:859)

'*Elephants* are becoming rare.'

(13) *Lyon* nepli egziste. MAURITIAN CREOLE
lion no-more exist (O.M.35.a.)

'*Lions* are extinct.'

Furthermore, Dayal's conjecture finds support in the creoles, too, because, in both HC and MC, indefinite readings (in both existential and generic environments) are also possible with bare nouns:

(14) Pòl achte *liv chè*. HAITIAN CREOLE
P buy book expensive (H.I.1.10.)

'Paul bough *expensive books*.' (existential)

(15) Jan ak Pòl se timoun ayisyen, ak *timoun ayisyen* HAITIAN CREOLE
J and P COP kid Haitian and kid Haitian

byen renmen ranse. .
well like joke (E.F.52.13)

'John and Paul are Haitian boys, and *Haitian boys* like to joke around.'
(generic)

(16) Ena *zako* dan sa lafore la. MAURITIAN CREOLE
exist monkey in DEM forest DET (B.N.1.53.)

'There are *monkeys* in this forest.' (existential)

(17) *Montagn* pa zwen, *dimounn* zwen. MAURITIAN CREOLE
mountain not join people join
(Carpooran 2002:6)

('*Mountains* do not meet, *people* meet.')
'Only *mountains* never meet.' (generic)

What is visibly different in the creoles compared to English is that the creole bare nouns are not pluralized. But nor are they semantically singular: The appropriate technical term here is "number-neutrality" or "transnumerality": A bare noun in creole can refer to both singularities and pluralities (cf. Déprez 2005:862f. for HC and Alleesaib 2005:14f. for MC). Thus, a more exact translation of the above creole bare nouns would have been *one or more Ns* instead of simple bare plurals. That creole bare nouns have this number-neutral reading also saves Chierchia's hypothesis that kind-denoting terms must be built from predicates that have pluralities in their denotation. The property of being "one or more Ns" clearly covers pluralities, too.

Now let us come to the more challenging aspect of Chierchia's theory, viz. that of explaining the bareness status of kind-denoting descriptions. I will again start with the creoles, with which Chierchia is not concerned. Would we expect creole kind-denoting descriptions to be definite-marked? If the structure in (5) is on the right track, we would not: No resource situation is involved because the situation parameter is forced to remain uninstantiated. Given the rules of definiteness marking we extrapolated for HC and MC, repeated below, the absence of the definite determiner despite unambiguity of reference is totally expected:

Definiteness marking rule for Haitian Creole:

Mark definite iff unambiguity holds in a resource situation.

Definiteness marking rule for Mauritian Creole:

Mark definite iff unambiguity holds in a resource situation and is not guaranteed by the descriptive condition.

Things get a little more interesting when we consider English. We have yet to define a rule for definiteness marking for English, but it is already clear at this point that the criterion "Is a resource situation involved in the production of unambiguity?" is not pertinent for English because in English even complete functional descriptions like *the father of Charles II* need the determiner. Chierchia's solution is to distinguish between ordinary *iota* as it appears with sortal descriptions like *the man* and an "intensionalized *iota*", which produces kind-concepts. This is the *iota* we see in (5). Chierchia coins a separate term for this intensionalized *iota*: '*down*', formally written '$\cap$', and states that English has lexicalized *iota* but not *down* – effectively another way of saying that kind-denoting descriptions are bare in English.

I assume that Chierchia's explanation is basically correct; we only need to profile it in a way that gives more credit to the role of the situation parameter. First of all, *down* is not a distinct operator from *iota*; the two are the very same thing. What is different is the behaviour of the situation variable. But this is something we are thoroughly acquainted with by now. In fact, we *want* a new description type to be distinguished by the behaviour of its situation variable – after all, this is the criterion we used to build our typology of descriptions. With kind-denoting descriptions added, we arrive at the following chart:

(18) *elaborated semantic typology of definite descriptions*

description type	**denomination**	**form**	**resource situation involved?**	**unambiguity guaranteed by descriptive content?**
incomplete	sortal description	$\iota x.\ P(x)(s^r)$ (P a property)	yes	no
	functional description w/ implicit argument	$\lambda s^t.\ f(\iota x.\ (x = x)\ (s^r))(s^t)$	yes	yes
complete	complete functional description	$\lambda s^t.\ f(a)(s^t)$ (a an individual)	no	yes
	kind-denoting description	$\lambda s'.\ \iota x.\ P(x)(s')$ (P a plural property)	no	no

Kind-denoting descriptions are "complete" because they do not need to draw from contextual information to be interpreted. They are distinguished by the feature combination "no" / "no" on the right-hand side of the table.

As far as English is concerned, the language uses its definiteness marker *the* in all rows but the lowest one (kind-denoting descriptions). This goes to show that, in English, the split is not between those descriptions employing resource situations and those not employing them, as in HC and MC, but between descriptions in which the situation variable is instantiated and those in which it is not: Both resource and topic situation variables can receive a value in the discourse, although in different ways. The situation parameter of a kind-denoting description must remain uninstantiated, and this is where English chooses to make a split. The rule for English definiteness marking can thus be formulated as follows:

> *Definiteness marking rule for English:*
> Mark definite whenever unambiguity holds in a situation that can be actualised.

The term "actualise" is found in Valdman (1977b:109). Valdman states that creole *la* serves to "actualise" the nominal content. My understanding of the word is accordingly

somehwat more comprehensive than Valdman's: I use it to denote the property of receiving a unique value in the interpretive process of variable-assignment.

6.4 Taxonomic descriptions

The appropriateness of the rule of definiteness marking for English (short: DME), just stated, is called into question by examples like the following, in which a kind-level predicate combines with a definitely-determined noun phrase:

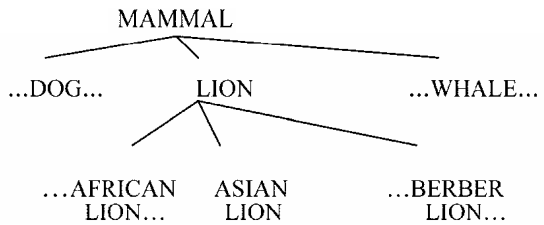
(19) *The lion* will become extinct soon. (Krifka et al. 1995:10)

Can this data be reconciled with DME? To do this, it has to be shown that definite singulars do *not* denote individual concepts built from sortal nouns. A proposal that falls into place here is found in Dayal (2004), where it is affirmed that (sortal) nouns are inherently ambiguous: They can either be predicates of individuals, or predicates of kinds. The kind-denoting definite singular stands for *iota* applied to a predicate of kinds, also called "taxonomic" predicate, written in capital letters is as follows:

(20) [[*the lion*]] = 1.) ιx. lion(x) – object-level entity
2.) ιx. LION(x) – kind-level entity

The kind-level description *the lion* then picks out the unique kind-entity which is a lion from the taxonomic level where we find the lion, but also the dog, the whale, etc.:

(21) *Taxonomy of kind-denoting predicates (Dayal 2004:424)*



Since according to this approach the ambiguity lies in the noun meaning, not in the determiner, we expect to find taxonomic readings with all sorts of determinatives, and also in predicative position, as indeed we do:

(22)a *Two whales*, namely the blue whale and the fin whale, were put under protection. ((114d) in Krifka et al. 1995:74)

(22)b *Every whale* (from the pygmy whale to the blue whale) is protected by law.
((114g) in Krifka et al. 1995:74)

(22)c The dolphin is *a whale*. ((114a) in Krifka et al. 1995:74)

The definite singular is simply the form we choose when considering a certain level in the taxonomy, in which a kind as a single whole entity is contrasted with other such kinds: the lion vs. the whale, or the blue whale vs. the fin whale. As expected, *iota* also works for plural taxonomic descriptions. In that case, it yields a maximal sum of taxonomic individuals:

(23) *The crustaceans* evolved simultaneously. ((51a) in Dayal 2004:425)

On the basis of Dayal's theory, I would like to argue that on their kind-level reading, sortal nouns simply do not carry a situation index at all because they need none: If an expression is lexically specified as denoting a kind, its meaning can never be relativised to a given domain, because whatever defines a kind is not domain-specific. We can again try to substantiate this hypothesis by testing the modal inertness of kind-denoting definite singulars. In the case of bare plurals, this test worked out because the situation variable is inherently bound; with definite singulars, the same results should be obtained, but this time due to the absence of a situation variable. Consider

(24) Lisa dreamt that *the pig* had wings.

with *the pig* as a kind-level description. This sentence is not ambiguous between a reading on which Lisa dreamt that "the pig-kind in our world" had wings, and one on which she dreamt that "the pig-kind in Lisa's dream world" had wings, thereby substantiating the idea that kind-level predicates come without a domain parameter. Seen in this light, English kind-denoting bare plurals and singular definite descriptions typify two strategies of achieving the same goal, viz. the neutralization of domain-relativity.[75] This is achieved either by abstraction over domains through a special operation (in the case of bare plurals), or through suppression of domain variables at the pre-compositional level, i.e. in the lexicon (in the case of definite singular descriptions). Finally, DME has to be slightly revised to take care of taxonomic kind-denoting descriptions:

[75] This is not meant to imply that bare plurals and definite singulars denote the exact same type of entity. It is well-known that there are contexts in which a definite singular can be used where a bare plural cannot, and vice-versa, as for instance in the following examples:

(i) *The lily* is the symbol of Florence. / #*Lilies* are the symbol of Florence.
(ii) Fido hates *cats* / # Fido hates *the cat*.

However, these differences do not necessarily impinge on the hypothesis that both types of noun phrases have their domain variable neutralized.

Definiteness marking rule for English, second version:

Do not mark definite if unambiguity holds in a situation that cannot be actualised.[76]

This formulation excludes all ways of producing unambiguous denotations apart from kind-denotation via individual concepts, as desired. I will disregard definite singular kind-denoting descriptions in what follows, since by assumption they do not teach us anything about the interplay between unambiguity and situation parameters, in which we are most interested.

In the creoles, there is no point in asking if a given (bare) noun phrase with kind denotation represents an individual concept or a maximized taxonomic predicate, anyway: Neither case contains a resource situation, so the determiner cannot be inserted. The singular/plural contrast cannot be called upon, either, since at least in HC, plural marking depends on the presence of a resource domain. Whether the plural marker *bann* of MC can be used for reference to kinds remains to be scrutinized. As for HC, Déprez (2005) shows that kind-denoting bare nouns are open to both singular and plural anaphoric pronouns:

(25) *Zòtolan* gaye kò li / yo an tout mòn. HAITIAN CREOLE
ortolan spread body its / their in whole mountain
((22) in Déprez 2005:864)

'*The ortolan* is spreading (itself) all over the mountains.' /
'*Ortolans* are spreading (themselves) all over the mountains.'

In the version in which the possessive pronoun is in the singular (*kò li* 'its body'), we can assume that *zòtolan* is interpreted as a taxonomic description; in the version in which the pronoun is plural (*kò yo* 'their bodies'), *zòtolan* gets interpreted as a kind-concept.

Chapter summary

In this chapter, we have seen that kind-denoting nominals are a distinct type of definite description. With the help of Chierchia's (1998) analysis of kinds as concepts, we managed to make kind-denoting descriptions fit in with our approach in which description types are differentiated by the characteristic behaviour of their situation parameter. While the absence of the determiner in HC and MC kind-denoting descriptions was expected, the bareness of English kind-denoting nominals revealed another point at which a language can introduce a split in definiteness marking: namely,

[76] Stated this way, the rule for English cannot be given as a biconditional, because as a matter of fact there are expressions that are not marked definite, yet have their situation variable actualised (viz. indefinites).

between those descriptions that can have their situation variable actualised, and those that cannot.

Appendix: Comparison with previous literature

The notion that languages differ with respect to the environments in which they use the definite determiner is not new, and reference to kinds is perhaps the area of grammar in which these differences have been investigated most comprehensively. French and its related creoles suggest themselves naturally as an object of study here because French always uses the definite determiner in kind-referential noun phrases, whereas its related creoles never do. Here is a HC example we had earlier, along with its French translation:

(26)a *Elefan* ap vin ra. HAITIAN CREOLE
elephant IPFV become rare ((1d) in Déprez 2005:859)

(26)b Les éléphants deviennent rares. FRENCH
DEF.PL elephants become rare.PL

'Elephants are becoming rare.'

However, we cannot conclude from this that kind-level vs. individual-level reference is the single decisive parameter with the help of which the determiner use in French and its creoles can be captured: None of the functional descriptions presented in this study are in any way generic: *papa Mari* 'Mary's father' certainly is not; *plafon chanm mwen* 'the ceiling of my room' isn't, either; etc. And, nevertheless, they are determiner-less, in contrast to their French equivalents (*le père de Marie*, *le plafond de ma chambre*). Therefore I believe that the approach offered here, in which definiteness marking is anchored to the specific role of domain parameters, is more appropriate. It also offers a coherent picture with respect to the (non-)use of the HC and MC determiners in functional and kind-denoting descriptions, two noun phrase types that do not appear to have much in common on the surface.

A second line of comparative research about kind-reference concerns the differences between Germanic (mostly English) and Romance. This topic has received particular attention since Longobardi (1994), who ties the interlinguistic contrasts to syntactic parameters, and Chierchia (1998), whose aim it is to provide maximal predictive power from a small set of semantic settings and type-shifting operations. Above, I tried to integrate Chierchia's model of kind-reference into a more inclusive theory of reference with definite descriptions.

A recent contribution directly addressing the question of interlinguistic variation of definiteness marking with kind-referential expressions is de Swart & Farkas (2005). The

authors compare the definite articles of English and French. As we will see in the next chapter, kind-denoting noun phrases are the decisive point of divergence between the two languages: English kind-denoting (plural) descriptions are bare, whereas the French equivalents need the definite article. Here is how de Swart & Farkas explain the difference in this particular domain: Kind-denoting descriptions are unlike other (typically, anaphoric) descriptions in that the two basic semantic features encoded by definiteness markers, familiarity and uniqueness, are at variance. The referent of an anaphoric description is both familiar – by virtue of having been introduced at some earlier point in the world of the discourse –, and unique – by virtue of being the only entity answering the descriptive condition. Therefore, anaphorically-used definite descriptions need to have the article in both English and French. In contrast, the referent of a kind-denoting description is unique (via *down*), but never familiar, because it has realizations in worlds different from ours. This constellation leaves definite article-languages with a choice: Either use the definite article, disregarding the fact that familiarity is *not* satisfied; or do not use the definite article, disregarding the fact that uniqueness *is* satisfied. French chooses the former option, English the latter. De Swart & Farkas call French a "langue à haute unicité" ("high-uniqueness language") because it forces the output to reflect uniqueness rather than familiarity when the two are in conflict, and English a "langue à haute familiarité" ("high-familiarity language"), because it forces the output to reflect (non-)familiarity rather than uniqueness. The authors couch their hypotheses in optimality-theoretic terms: They talk about constraints rather than rules governing article-choice and analyse the difference between French and English as caused by inversed rankings of these constraints.

In evaluating de Swart & Farkas (2005), we first have to note that the differences in definiteness marking between the creoles, or between the creoles and English, could not be adequately captured by this approach. (Of course, the authors do not purport to do this, either). What seems conceptually problematic is the reasoning that leads to the classification of kind-denotations as unique, but not familiar. On the one hand, it seems intuitively correct that we cannot be familiar with a kind in the same way that we can be familiar with a concrete entity, and it is natural to connect this intuition to the intensional character of kinds. But then again, there are other expression types that denote unique entities which are not familiar, and which nevertheless require a definite article in English. I have argued that functional expressions can denote referents that are unique (unambiguous), but not familiar (in the sense that they presuppose shared particular knowledge). An example would be *the horn of a unicorn*. The external referent of this description neither needs to be familiar from the previous discourse, nor even exist in the world of the discourse at all (just assume that the world of the discourse is our world). Yet the determiner is required in this English noun phrase. The same goes for definite, singular, kind-denoting descriptions: These too must take the definite article in English, although their denotation is no less intensional (realized in different possible worlds) than that of kind-denoting bare plurals. For instance, (27)b below makes a statement about lions across possible worlds, just like (27)a. This follows from the assumption, made earlier, that the kind-denoting *the lion* is based on a

taxonomic predicate (Dayal 2004). Nevertheless, the definite article is obligatory in English:

(27)a *Lions* have a bushy tail.
(27)b *The lion* has a bushy tail.

De Swart & Farkas explicitly confine their study to kind-denoting nominals in the plural, but given that the English definite article is identical in form for the singular and plural, it seems appropriate to ask why the constraint proposed for the plural kind-denoting case (no familiarity, and thus no definite article) is apparently inapplicable to singular kind-denoting definites. The authors (ibid:99) merely state that kind-denoting singulars denote "atomic entities of the domain", and we could interpret this as saying that lion-realizations in worlds other than ours are not in the denotation of *the lion*. But if this is the way the argument goes, one would still like to know what it means to be "familiar" with an atomic kind-entity (by comparison with more ordinary atomic individuals like you and me). Apart from this unclarity, it is simply not true that "atomic kinds" are more familiar than non-atomic kinds in the sense that the former are only part of the actual world. Suppose it turns out that it is part of the defining genetic structure of lions that they grow bushy tails, i.e. having a bushy tail is a general property of lions in our world as well as in any other possible word. Then this discovery can be expressed by (27)b just as well as by (27)a, which is evidence that definite singulars can be used to make modalized statements that go beyond what holds of the actual, "familiar" world. It seems to me that there is simply no difference here between (27)a and (27)b as far as the speaker's/hearer's presupposed familiarity with the referents of the subject noun phrases is concerned, neither intuitively nor theoretically. There is a certain vagueness about the term "atomic" as applied to (the meaning of?) the taxonomic description *the lion*; it invites the idea that the referent is "indivisible" across worlds, so that it can only be realized in one world (which would have to be the actual world). But if one considers how kind-denoting definite singulars are actually used, it turns out that they do not designate individuals existing in our world only. So "atomic" cannot imply "existing in one world only". The term would rather apply to atomicity in a more grammatical sense; for instance it is well-known that singular kind-denoting descriptions are unable to license reciprocals (cf. **The lion hates each other*); but this appears irrelevant for matters of familiarity and the like. To avoid such terminological confusions, I have chosen a more descriptive, more "technical" account of the difference between (27)a and (27)b above, in which "familiarity" is not appealed to in the first place.

Another aspect of de Swart and Farkas (2005) that deserves discussion is their characterisation of definite expressions as essentially combining the two features "unique" and "familiar". The present proposal is centred around uniqueness / unambiguity alone, and treats familiarity (in the guise of mutual knowledge) as an additional feature of a sub-class of definite expressions. This means that de Swart & Farkas' hypothesis that kind-denoting definites are "defective" in that they are non-familiar is not shared by my approach. De Swart & Farkas offer an argument to the

effect that, in English, where the definite article is only possible if familiarity holds, even kind-denoting noun phrases in the plural can be determined if the referent has been made familiar, namely by having an antecedent in the same discourse. If this is true, the present approach is in trouble, since I argued that anaphoricity hinges on resource situations, and the form that I chose for kind-denotations does not provide resource situations. Here is de Swart & Farkas' example, an authentic entry from the "Encyclopaedia Britannica":

(28) *The dinosaurs* belong to a major subdivision of the reptiles termed the Archo-sauria, or ruling reptiles. ((32) in de Swart & Farkas 2005:124)

The idea is that the italicized kind-denoting noun phrase is definite because its referent is familiar after the headword of the corresponding encyclopaedia entry. In other words, (28) is a case of anaphora to kinds. Does this demonstrate that the English definite article is in fact an expression of the feature combination "unique" and "familiar"? – I think that another explanation is feasible. Recall that reference to kinds can be achieved in two ways: Either through an individual concept, or through a taxonomic predicate. DME implies that only the latter type of kind-reference can possibly involve a definite article. By this hypothesis, the occurrences of "the dinosaurs" in (28) could still denote the taxonomic maximality of dinosaurs:

(29) $[[\textit{the dinosaurs}]]^{(28)} = \sigma x.\ \text{DINOSAURS}(x)$

According to the revised version of DME, this sort of expression must contain the definite article in English, but not because there is an anaphoric link. In the light of this alternative explanation, there is no need to accept de Swart & Farkas' hypothesis that the English definite article indicates familiarity of the referent.

In the next chapter, I will recapitulate the results of the study in a final comparative classification, and ask how other languages with split definiteness marking systems might be dealt with from the resulting viewpoint.

7. Definiteness marking across languages

7.1 Summary of the results

Let us take stock. At the beginning of the study, I proposed unambiguity as the universal semantic correlate of definite expressions; looking back we can say that it has done us a good service: Unambiguity is distinctive enough to delimit definites from other sorts of noun phrases, yet broad enough to cover the different sub-types of definite descriptions with both sortal and functional head nouns. From the three previous chapters it emerged that morphological variation in the realization of definiteness (manifestly presence vs. absence of a determiner form) has no bearing on unambiguity as such, but rather concerns properties of the *domain* in which unambiguity is realized. Applied to the languages dealt with above, we arrived at what can be stated by the following rules:

- *Definiteness marking rule for Haitian Creole:*

  Mark definite iff unambiguity holds in a resource situation.

- *Definiteness marking rule for Mauritian Creole:*

  Mark definite iff unambiguity holds in a resource situation and is not guaranteed by the descriptive condition.

- *Definiteness marking rule for English:*

  Do not mark definite if unambiguity holds in a situation that cannot be actualised.

These three languages thus choose different cut-off points in the alternation between presence vs. absence of a definiteness marker in unambiguously-denoting descriptions. Of course, there is no need for a language to have such an alternation in the first place. For instance, in French *all* the description types dealt with in this study take the definite determiner, i.e. there simply is no split. This makes it exceptionally easy to state a rule of definiteness marking for French:

- *Definiteness marking rule for French:*

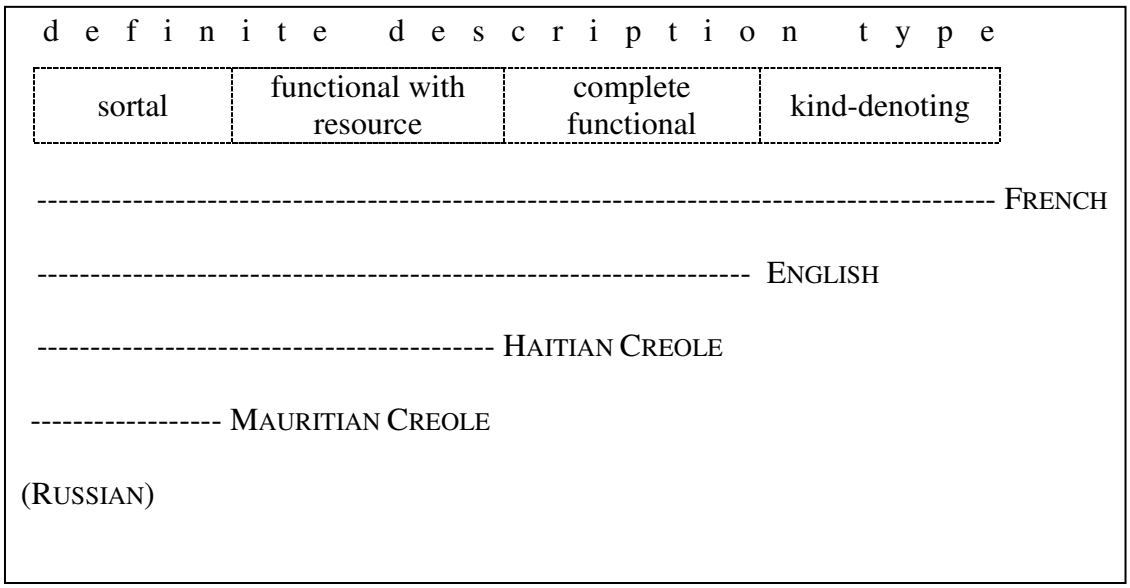
  Mark definite iff unambiguity is situation-relative.

In comparison with the other languages, the French definite determiner is, thus, the most direct coding of unambiguity. It does not make any concessions to the behaviour of the domain parameter at all. This has no always been so, of course: In Old French, for instance, the definite article was used neither with absolutely uniquely-denoting

expressions like *the sun*, nor with kind-denoting nominals (cf. Buridant 2000:108ff.). It is a well-known fact that definite determiners, most often originating from demonstrative forms, tend to spread across more and more contexts of use. With regard to the languages considered in this study, French has gone the farthest in this process.

On the other end of the spectrum, we find languages like Russian, where there is also no split, because there is no specialized unambiguity-marking item at all. Let me try to depict the situation in a graph:

(1) *the domains of definiteness marking in four languages*



Note that MC is not a perfect instance of its category insofar as the determiner can be optionally inserted in functional descriptions with implicit arguments (cf. section 5.3.2.5). The schema becomes more uniform if we read the dotted lines as meaning "extension of domain in which definite determiner *must* be inserted", in which case the positioning of MC becomes adequate again.

Definiteness-marking is directly connected to description classes in (4). We built these classes on the basis of their differing situation-semantic make-up, for which I suggest the following terminology:

– Sortal descriptions: indexical *instantiation* of situation parameter

ex.: The man is bald.

λs^t. bald (ιx. man(x)(s^r))(s^t)

indexical instantiation

– Complete functional descriptions: *identification* of situation parameter

ex.: The king of France is bald.

λs^t. bald $(f_{king}(f)(s^t))$ (s^t)

identification

– Functional descriptions with a resource: internal *instantiation*, external *identification* of situation parameter

ex.: The king is bald.

λs^t. bald $(f_{king}(\iota x.\ (x = x)(s^r))(s^t))$ (s^t)

indexical instantiation identification

– Kind-denoting descriptions: *abstraction* of situation parameter

ex.: Dodos are extinct.

λs^t. extinct $(\lambda s'.\ \iota x.\ dodos(x)(s'))(s^t)$

abstraction

Thanks to the three concepts of (*indexical*) *instantiation*, *identification* and *abstraction*, we have another way of describing the patterns of definiteness marking in terms of the underlying semantic mechanisms, as follows: HC marks descriptions in which either *internal* or *external instantiation* of the situation variable is necessary; MC marks descriptions in which *external instantiation* is necessary; English marks descriptions in which *instantiation or identification* is necessary; and French is insensitive to the fate of the situation variable.

Finally I would like to add some remarks on the descriptive range of the scheme in (1). First, it might be objected that it is *too comprehensive*: The position held by MC is such that only sortal descriptions are obligatorily definite-marked. This raises the question of whether the corresponding definite determiner really is a definite determiner, and not actually a demonstrative. Himmelmann (2001:833) discusses the difference between demonstrative forms and definite articles and asserts that "the crucial distinguishing feature [of definite articles, J.W.], however, is that they are consistently used in some additional contexts in which demonstratives must not be used". Now note that the contexts in which sortal definite descriptions can be used − anaphoric, deictic, and recognitional − are all contexts in which demonstratives can *also* be used; in contrast, all other description types in (1) are indeed incompatible with demonstrative determiners under normal circumstances. One might conclude that MC is a language with no definite determiner at all, only demonstratives. And given further that it is believed that every language has demonstratives, MC would no longer be suitable as typifying the particular sort of language we want for the schema.

I have a theoretical and an empirical response to this concern. The theoretical response is that the emphasis in Himmelmann's characterization of definite articles might well be on the word *articles*, not *definite*. I abstained from using the word *article* in discussing the creoles precisely so as not to conflict with definitions of article-hood that do not square with the meaning and use of creole *la*. The word *la* of HC and MC might still be a definite determiner, although it might not be an article according to the definition of grammarians. For languages such as English or French, the concept of an article is apparently less problematic because of the wider distribution of the corresponding forms, but possibly also because of its undisputed usage in the philological / linguistic traditions. At any rate, if it should turn out that the concept 'article' is inapplicable to MC (or HC) *la*, there is no problem as long as it is agreed that *la* is a definiteness marker. But how do we establish that MC *la* really is a definiteness marker, and not a demonstrative? Answering this question presupposes a criterion for telling the two apart. I have not developed such a criterion in this study. But one test that we can avail ourselves of right now is Löbner's (1985:285) "consistency condition". Definite descriptions fail this condition, while demonstrative descriptions pass it. Example:

(2)a #The boy is small, but the boy is tall.

(2)b That boy is small, but that boy is tall.

A satisfactory account of this felicity contrast would require specifying a semantics for demonstratives, something which I cannot undertake here. However, it is a common assumption about demonstratives that their interpretation involves speaker intentions, or some perceivable act of demonstration, and it seems appropriate to assume that this is what makes (2)b felicitous: The speaker's intentions / her demonstrative act can target a different individual on each occasion of uttering *that boy*. From the fact that (2)a is infelicitous we can conclude that a definite description cannot incorporate speaker intentions / demonstrations, or at least not per utterance token. Translating (2) into MC, we see that *la* concurs with the English definite article here, not with the demonstrative. (2)b *must* be rendered with the demonstrative *sa* in MC.

(3)a #Garson la piti, me garson la gran. MAURITIAN CREOLE
boy DEF small but boy DEF big

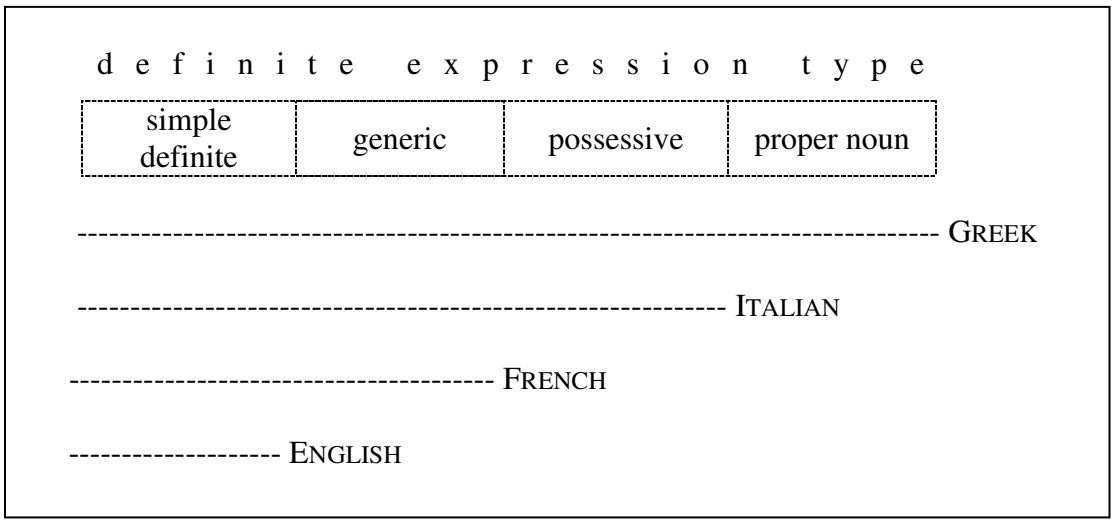
(3)b Sa garson la piti, me sa garson la gran. MAURITIAN CREOLE
DEM boy DEF small but DEM boy DEF tall
(N.G.2.6.b.)

In MC, like in HC, *la* needs the support of *sa* to form a proper demonstrative phrase. All of my informants, both for HC and MC, instantly rejected sentence (3)a and commented without my querying that the noun phrases must have *sa* in addition for the sentence to

seem right. This is my empirical response to why MC *la* should be considered a genuine definite marker, and not a demonstrative.[77]

The second objection one might have against the range of the schema in (1) is that it is *not comprehensive enough*. According to (1), French is a language in which the definite determiner has a maximally-wide distribution. But curiously, in the four-tiered typology of definiteness marking construed in Lyons (1999), French takes not the highest but the second-lowest rank:

(4) *the domains of definiteness-marking in four languages in Lyons (1999:337)*



The category of "simple definites" subsumes both what I call sortal descriptions and functional descriptions with the canonical function–argument ordering (including functional descriptions with implicit arguments); "generic" is equivalent to our category of kind-denoting descriptions. Does Lyons' list imply that our scheme in (1) is somehow faulty because there is no way to extend it beyond French? – I do not think so. First of all, the categories put to use in (4) are not gained from theoretical reflections, nor are they so intended. They are descriptive labels that Lyons uses to capture the stages across which the definite article may spread diachronically. Nevertheless, we should have something to say about the additional categories brought to bear in (4). First, it has to be clarified that the difference between French and Italian definiteness marking is confined to cases in which the possessor is given through a

[77] A further empirical argument could be made out of the anaphoric qualities of MC *la*. As Diessel (1999:98f.) notes, demonstratives can be used as anaphoric devices, but not throughout an anaphoric chain. Rather, they are only appropriate once, namely when a newly introduced referent is mentioned for the second time; after that, the definite article must take over. Diessel remarks that demonstratives can serve to indicate a topic-shift, whereas definite descriptions (and more so pronouns) indicate topic continuity. This criterion too suggests that MC *la* is a definite, not a demonstrative. Anaphoric chains with *la*-marked descriptions can be traced throughout discourses en bloc, whereas *sa*-marked descriptions appear only when a new referent has just been established, as predicted by Diessel.

pronoun; only in those cases can French make do without the article: *mon père* 'my father' is grammatical without the definite article, but in *le père de Marie* 'the father of Mary' it cannot be omitted. This is an interesting contrast in itself, but it suggests that the absence of the determiner with (some) French possessives has to do with the peculiarities of pronouns and cannot be attributed to functional descriptions as a type in our sense. For Lyons, the contrast in question is much more important, because his aims are syntactic rather than semantic: He wants to specify the precise structural position in which definite determiners can be inserted, and possessives with pronouns are an important diagnostic tool in this enterprise. For the typology developed here, the difference would only count as substantial if the French definite determiner were omitted in every functional description, which it is not. Consequently, Italian and French would be on the same (topmost) level in the schema in (1).

The transition from level 3 to 4 in Lyons' typology concerns the (non-)use of the determiner with proper names (also called "proper nouns"). This differentiation is, however, outside of the scope of the present study because it concerns definiteness-marking with a type of expression which, by my assumptions, is not based on a predicative expression and hence has no situation parameter. I have confined myself to studying definiteness marking with expressions that have such a parameter. This is why I formulated the rule for French as "Mark definite iff unambiguity holds relative to a situation", and not simply as "Mark definite iff unambiguity holds." The former phrasing excludes proper names, which I assume to be individual constants without any descriptive content. If the assumption about article-spread suggested by (4) is correct, then it shows that the change goes from situation-dependent unambiguity marking to unconstrained unambiguity marking.

In sum, Lyons' typology represented in (4) does not challenge the schema in (1) given its different aims and scope.

7.2 Other languages with split definiteness marking systems

In this section, I will consider some more languages and dialects exhibiting a split definiteness marking system. This is meant to give us an idea of how far we can get with the tools developed in this study, and what kinds of extensions we might have to reckon with. There is no doubt that the four-layered scheme proposed in section 7.1 takes account of only some of the parameters influencing the marking of definiteness in natural languages. Nevertheless, the notions used are so general that we would expect them to play a role in languages other than just those discussed above. Among those notions are the differentiation between topic and resource situations, as well as the parameter of (in)completeness with respect to descriptive unambiguity. Since the original data are sometimes very sparse, this section should be read as a rather impressionistic bundle of proposals as to what *might* be stated for the languages in

question if additional data point in the direction that the accessible evidence suggests. The choice of languages simply results from the availability of semantic literature on split-definiteness marking systems.

7.2.1 Fering (North Frisian)

The data in this section are taken from Ebert (1971a, b), who is concerned with questions very similar to those discussed here. Ebert scrutinizes the use of the two definite article forms in Fering, a Frisian language spoken on the islands of Amrum and Föhr (off the German North Sea coast), with the aim of accounting for their distribution in semantico-pragmatic terms. Already Löbner (1985:312) cites Fering as working in favour of his theory about two types of definite description. Fering has a so-called "D-article" and a so-called "A-article". Both inflect for gender and number; the former article always begins with a "*d-*": *di* (masculine singular), *det* (feminine and neuter singular), *don* / *dön* (plural for all three genders), the latter with an "*a-*": *a* (masculine singular), *at* (feminine and neuter singular), *a* (plural for all three genders). Fering as well as most of the other languages dealt with in this section is different from the languages we have looked at up to now insofar as the split is not realized as presence vs. absence of a determiner, but instead as a choice between two different determiner forms. Nevertheless I will try to describe the split on the basis of familiar principles. To put it simply, where the split is made is more important than what forms we find on each side.

Generally speaking, the distribution of the D-article overlaps with that of creole *la* to a large degree, and the same goes for the A-article and creole zero. But there are also some points of divergence, as I will show next, beginning with the D-article.

Ebert enumerates the following contexts in which the D-article must appear:

- directly-anaphorically used descriptions
- deictically used descriptions
- "cataphorically" used descriptions

The latter category comprises descriptions with embedded relative clauses in which the identity of the referent is established or re-established.

The directly anaphoric use (5) and the deictic use (6) of the D-article reveal nothing new in view of our earlier discussion of these types.

(5) Oki hee an hingst keeft. *Di* *hingst* haaltet. FERING
O has INDF horse bought D-DEF horse is-lame
((10) in Ebert 1971b:163)

'Oki bought a horse. *The horse* is lame.'

(6) Deest dü mi ans *det buk* auer ? FERING
give you me once D-DEF book over ((1) in Ebert 1971a:103)

'Will you pass me *the book*?'

The so-called "cataphoric" use of the D-article in Fering deserves some more discussion. I will present it in terms of Ebert's own classification of relative clauses. It is not completely congruent with the relative clause classification that we used for HC in chapter 4.7 because, as will become clear in a moment, the determiner use on which the grouping in HC was based is slightly different in Fering. It might be helpful to review section 4.7 before continuing.

Ebert makes a three-way semantic distinction between relative clause types. First, there is the appositive type, in which the content of the relative clause does not serve to identify the referent, but, rather, adds information about an independently identified referent. An English example is in (7).

(7) The chancellor of Germany, who is tired of governing, went on holiday.

The appositive status of relative clauses has no intrinsic link to determiner choice in Fering (or in creole) and can thus be neglected here.

Second, there is the "re-identificational" type of relative clause. Its function is to help the hearer retrieve a referent that is already known to him:

(8) Peetje wal *det wüf* fräi, *wat haaltet*. FERING
P wants D-DEF woman marry REL limps ((26) in Ebert 1971a:139)

'Peter wants to marry the woman who walks with a limp.'

(8) has, as a background implication, the idea that the woman in question is already known to the hearer. The information given in the relative clause is helpful or necessary to identify the intended referent correctly.

Third, there is the "selective" type: It denotes a property that must be intersected with the property denoted by the head noun before the determiner applies to the complex predicate thus created. Such constructions can take the D-article or the A-article in Fering (specifications to follow). An example I will discuss below is the following, where only the D-article is possible:

(9) Det / *At buk, wat hi tuiast skrewen hee, docht niks. FERING
D-Def / *A-Def book REL he first write have be-worth nothing
((33') in Ebert 1971b:169)

'The book that he wrote first is no good.'

All of the three types of relative clauses just mentioned came up in the discussion of HC relative clauses, too, although they were categorized in a slightly different manner. Recall that in HC, there are two slots for the determiner to take: the slot directly after the head noun, or that after the relative clause. Appositivity is not a relevant property for determiner use in HC, either (appositives are basically neutral with respect to whether the information coded is mutually known or not). The "re-identificational" type is distinguished by a relative clause-final *la* in HC, to signal that the information coded in the relative clause is, in principle, already known to the hearer. Depending on whether the speaker considers the information provided in the relative clause as merely helpful or essential to identify the right referent, a second *la* can be inserted directly after the head noun.

Up to here, it looks as if the D-article of Fering and HC *la* work in the same way, i.e. we are tempted to hypothesize that the D-article signals unambiguity *cum* resource situations. But the "selective" relative clause type goes against this hypothesis. Recall that HC cannot use *la* with what Ebert calls selective relative clauses. I replicate the relevant examples from HC here (cf. section 4.7):

(10) *Moun ki te envante òdinatè*, se te Charles Babbage. HAITIAN CR.
man REL PST invent computer COP PST C B
(E.F.5.7.18b)

'*The man who invented the computer* was Charles Babbage.'

(11) Pòl monte sou *montany ki pi wo an Afrik*. HAITIAN CREOLE
P climb on mountain REL most high in Africa
(E.F.68.24.)

'Paul climbed on the highest mountain in Africa (*'the mountain which is highest in Africa'*).'

To repeat, the reason why the italicized nominals cannot be *la*-determined is that they do not make reference to previous knowledge established in a resource situation; nonetheless, the parallel cases in Fering (cf. (9)) do take the D-article. An explanation for this latter data along the lines of Ebert's own theory is the following: The D-article indicates that the referent is "specified" elsewhere in the discourse, and that the hearer must draw from this discoursal specification to be able to identify the referent. Prototypically, the property of something's being specified is acquired by its having been mentioned earlier in the discourse, i.e. anaphora. But a referent can also be deictically specified, or its identity can be established in an ensuing relative clause. This latter type of specification proceeds "forwards" in the discourse: The decisive information needed to identify the referent comes after the noun. Now, the relative

clause is separated from the associated nominal predicate by an IP-boundary[78], which by our definition means that the predicative material in the relative clause is evaluated with respect to a *non-topical* situation parameter from the perspective of the nominal predicate *book*. The question we are facing here is whether being a non-topical situation is the same as being a resource situation. − In principle, it should be the same, because our assumption concerning situation types was that *tertium non datur*, and it would be preferable to keep things as simple as that. However, if we accept relative clauses as supplying resources, we have to explain why HC (10) / (11) do *not* take *la*.

I propose that this has to do with "directionality": In HC, *la* can only be inserted if the resource situation needed to pick out an unambiguous referent is retrievable from *earlier* in the discourse, whereas for the Fering D-article to apply, the situation in question can be introduced before *or* after the head noun. The first option is instantiated by the familiar anaphoric case, the second one by the selective relative clause type. To take care of this difference between HC and Fering, we must refine the notion of a resource situation: Within the confines of a given noun phrase, it can either be linearly-temporally "backward-oriented" or "forward-oriented" w.r.t the head noun. Every other assumption about resource domains remains the same. The rules of definiteness marking in Fering and HC can then be stated as follows:

Definiteness marking rule for Fering, part one:
Use the D-article iff unambiguity holds in a resource situation.

Definiteness marking rule for Haitian Creole (new version):
Mark definite iff unambiguity holds in a backward-oriented resource situation.

(The rule for MC would have to be revised accordingly.)

A further interesting detail noted by Ebert is the following: If in (9) the unambiguity-inducing adverbial *tuiast* 'first' is removed from the relative clause and placed before the head noun as an adjective, both the D-article and the A-article become possible:

(12) *Det / At iast buk, wat hi skrewen hee,* docht niks. FERING
D-Def / A-Def first book REL he write have be-worth nothing
((33) in Ebert 1971b:169)

'The first book that he wrote is no good.'

We should be able to explain why the A-article is possible in (12) but not in (9). The crucial point here is that the adjective *iast* turns the nominal core from a sortal one into a functional one: *the book* is a sortal description, whereas *the first book* is a functional description. It implies that the referent must be unambiguous. The head nominal in (9)

[78] It is usually assumed that relative clauses are headed by a syntactic projection labelled "C(omplementizer)P(hrase)", which in turn selects the IP.

is thus what I would classify as an "incomplete functional description". Functional nouns with an implicit argument form another sub-type in this category, and, as we will see in a bit, they too take the A-article in Fering. The freedom of choice between the two article forms in (12) may be an outcome of two possible ways of looking at the referential unambiguity of the noun phrase in question: On the one hand, unambiguity is encoded by the functional modifier *iast* appearing before the noun, motivating the A-article; on the other hand, the complete domain on which this function operates is partly constituted by material situated beyond an IP-boundary, motivating the D-article.

Let us turn to a closer inspection of the A-article of Fering next. Here is a list of expressions that are used with the A-article, culled from the examples presented in Ebert's writings:

- Proper names
- kind-referring noun phrases
- "absolutely unique" entities (*the sun* etc.)
- complete functional descriptions
- functional descriptions with implicit arguments

These are partly labels that are used in this study, but not in Ebert's. The category of functional descriptions is most contentious, because it brings together cases which Ebert classifies in a different way.

Proper names are determined by the A-article if they refer to certain types of entities, like persons or languages. Otherwise they are bare. I will keep disregarding proper names here, since, by assumption, they are not built from predicates and thus have no situation argument.

Fering examples of kind-referring noun phrases are the following:

(13) A kaater kleesi. FERING
A-DEF.PL cats scratch ((1') in Ebert 1971b:159)

'*Cats* scratch.'

(14) *A rik mensken* natge *a aarem mensken* ütj. FERING
A-DEF.PL rich people take-advantage-of A-DEF.PL poor people PREP
((61) in Ebert 1971a:154)

'*The rich* take advantage of *the poor*.'

Ebert does not talk about reference to kinds directly; she is rather interested in the contrast between reference to concrete entities (the ones I have been considering for the most part) vs. reference to abstract entities like *liberty*, *life*, and continuative entities, like *sugar*, *water*. Even though it is clear that the latter two are similar to kinds in some ways, I will not reflect on them any further and will content myself with the observation that kind-referring nominals built from count nouns take the A-article in Fering.

An example including reference to "absolutely unique" entities is the following:

(15) *A eard* dräit ham am *a san*. FERING
A-DEF earth turns REFL around A-DEF sun ((5) in Ebert 1971a:71)

'*The earth* revolves around *the sun*.'

In this area, Fering behaves like MC, which uses zero with such nouns, and unlike HC, which contains the determiner.

The following include examples of complete functional descriptions:

(16) *A prääster faan Njiblem* as kraank. FERING
A-DEF vicar of Njiblem is ill ((65) in Ebert 1971a:155)

'*The vicar of Njiblem* is ill.'

(17) Katmandu as *a hauptsteed faan Nepal*. FERING
K is A-DEF capital of N ((66) in Ebert 1971a:155)

'Katmandu is *the capital of Nepal*.'

If the implicit argument is left unspecified, it is the A-article that is again used.

(18) Wi foon a sark uun a maden faan't taarep. FERING
we found A-DEF church in A-DEF middle of D-DEF village

A törem stän wat skiaf.
A-DEF steeple stand somewhat tilted (Ebert 1971a:118)

'We found the church in the middle of the village. *The steeple* was a little tilted.'

(19) Jister wiar wi tu bradlep. *At bridj* kaam alter leed tu hööw. FERING
yesterday were we at marriage A-DEF bride came too late to church
((17) in Ebert 1971a:122)

'Yesterday we were at a wedding. *The bride* arrived at the church too late.'

Apart from these categories, Ebert brings up a host of examples which are difficult to classify in the present theory. They contain descriptions used to refer to entities mutually known on the basis of what Hawkins (1978) calls the "larger situation". Ebert takes a special interest in them because they help to support her theory, according to which the D-article signals that the hearer must draw from the discourse context to retrieve the referent, whereas the A-article appears "if the referent does not need to be explicitly introduced" ("wenn der Referent nicht explizit eingeführt werden muss"; Ebert 1971a:91). The following examples including A-articles are supposed to demonstrate this:

(20) För him skel dü *a* *mots* ufnem. FERING
before him must you A-DEF hat take-off ((60) in Ebert 1971a:99)

'You must take *your (the) hat* off before him.'

(21) *A* *dring* hee at bian breegen. FERING
A-DEF boy has A-DEF leg broken ((39) in Ebert 1971a:90)

'*The boy* broke his leg.'

(22) *A* *könig* kaam tu bischük. FERING
A-DEF king came to visit ((30) in Ebert 1971a:83)

'*The king* came for a visit.'

In (20), reference to *the hat* is unproblematic because the surrounding information (*you must take off…*) makes the ensemble of the addressee's clothes so prominent that the *the hat* can only be interpreted as *the addressee's hat*, i.e. no contextual searching procedure is necessary. In creole, such cases would take the zero determiner. I have not given an account of this, but it is clear that no resource situation must be activated to interpret *the hat* in (20); rather, this is a statement to the effect that whatever hat the addressee is wearing when he or she encounters "him" must be taken off. This is just Ebert's rationale with slightly different wording.

(21) can be uttered by a mother or father to refer to their son when talking to another member of the same core family. This would not be possible if the D-article were used. According to Ebert, this is once again because the D-article signals that the addressee must search the previous discourse or physical context to find the intended referent, whereas the A-article signals that no such search is required. Since the family's son is in the permanent memory of the addressee, only the A-article is possible. If *di dring* (D-article) were used instead, the utterance would still be well-formed, but the subject could no longer be the son of the family, but would have to be another boy introduced in the discourse at some earlier point. Example (21) is difficult to classify in the present model. Is *the boy* like a proper noun? – Note that parents can still talk about *the boy* when their son is long since an adult, that is, when the predicate *boy* does not objectively apply to him any more. This descriptive opacity characterizes proper names

(the White House will still be called thus even if it is painted a different colour, etc.). Then again, a family's only cat is also referred to with the A-article: *a kaater*, and in this case the description must probably stick with the object no matter what. Could we say instead that *the boy* in (21) is a functional description with an implicit argument? Notice that *the boy* as used in (21) is referentially equivalent to *our son*, and *son* is clearly a functional noun. But the fact remains that *boy* is a sortal noun, and we do not have the feeling that a re-categorization has taken place in (21). A third option would be to analyse *the boy* in (21) as a recognitional description, although this solution is intuitively not very felicitous. The term "recognitional" connotes that the addressee has to make an effort to find the referent, to search his memory space for "specific shared knowledge" (Himmelmann). But the only son of a family can be assumed to be so constantly present in the consciousness of the parents that this sort of "recognition" is a mislaid concept here.

(22) is more clearly a case of a functional description with an implicit argument. That there really *is* an implicit argument in *the king* is easily forgotten, because inhabitants of a given kingdom will almost always refer to the king of their own country when uttering *the king*, so that they will almost never have to make the internal argument explicit by saying *our king* or *the king of this country*. The noun phrase *the king* then receives the air of an absolutely uniquely-referring expression, like *the sun*, and its complex structure is not recognized any more. When this happens, functional descriptions with implicit arguments may come to assume a different status in the accessibility hierarchy, too, and be used in a name-like fashion. Thus, *The President attended the soirée* can come to be felicitous under the same circumstances under which *George Bush attended the soirée* is felicitous, and it is telling that the description tends to be written in capital letters, i.e. like a proper name, in such cases. Nevertheless, we should hold on to our tried and tested scheme and classify all occurrences of *the president* or *the king* as functional descriptions, the changes alluded to being of a pragmatic rather than semantic nature. In (22), the internal argument is determined by the larger situation. The A-article is then as expected (cf. examples (15), (16)).

If we compare the data from Fering with our findings from creole, we see that the match between the A-article and creole zero is not perfect, either. This is true for both HC and MC, although the Fering A-article is more similar to MC zero than to HC zero: MC functional descriptions with implicit arguments can be bare, whereas they are always *la*-determined in HC; moreover, absolutely uniquely-referring expressions like *the sun* take the A-article in Fering and zero in MC, but *la* in HC. The point where Fering differs from MC (and HC) is exemplified by (21), where reference is to a mutually-known individual not present in the speech situation. Unfortunately, I have not been able to offer an account of that case within the theory of definiteness developed in this study. For every other case, we can profit from the parallelism between Fering D-article / A-article and MC *la* / zero in stating a rule for Fering (cf. the definiteness marking rule for MC stated in section 7.1). If we assume for the moment that descriptions like that in

(21) do not involve a resource situation, we can at least skirt the problem by means of the following formulation:

> *Definiteness marking rule for Fering (tentative):*
>
> Use the D-article iff unambiguity holds in a resource situation and is not guaranteed by the descriptive condition; use the A-article otherwise.

(where "otherwise" means "iff unambiguity is such that it does *not* hold in a resource situation and is not guaranteed by the descriptive condition".) This is the equivalent to the rule for MC, with "D-article" exchanged for *la* and "A-article" exchanged for zero.

The above rule does however not capture every detail of the Fering determiner use, even apart from the optionality displayed by cases such as (12) above. Ebert notes that both the D-article and A-article are possible in the following Fering description:

(23) a / di prääster faan Saleraanj – 'the vicar of Saleraanj'

In this case, the variation makes a semantic difference: The D-article is only possible if the speaker is neither *from* the village of Saleraanj, nor *in* Saleraanj at the moment in which she makes the utterance; otherwise the A-article must be used. This shows that the articles of Fering are sensitive to proximity with respect to the speech participants. Nothing comparable is found in the creoles because, in those languages, article choice is completely determined by inherent semantic features of the following nominal complex; thus, in creole, the description in (23) could never take *la* for the reason that *the vicar of Saleraanj* is a complete functional description.

7.2.2 Norwegian

In Norwegian, there is an interesting binary scheme of definiteness marking limited to the domain of superlative descriptions, which I classified as a sort of complex functional descriptions in section 4.5.5 (the function is introduced by the superlative morpheme). The following data are taken from Borthen (1998), who shows that Norwegian superlative descriptions can either be determiner-less, or appear with the regular free-standing definite article.[79] Borthen proposes that superlatives can be used bare if an "attributive" reading is intended, whereas superlative descriptions with the article can additionally have a "referential" reading. "Attributive" and "referential" refer to a pair of concepts coined by Donnellan (1966). This bears some resemblance to the distinction between "transparent" and "opaque" as defined by Quine (1960:141-146); however, Donnellan's original examples did not involve any intensional operators.

[79] Besides the free-standing article, Norwegian has a clitic definiteness marker, which attaches to nouns and adjectives in an agreement-like fashion. I gloss it as *def* below. It does not concern us here; I therefore call every Norwegian noun phrase that comes without the free-standing definite article "determiner-less".

Thus, Donnellan claims that (24) can be read in two ways; it can be taken as a statement about whoever it is that murdered Smith (we cannot identify this person, he or she is still at large), or, if circumstance permits, about a particular, perceptually or otherwise identified individual that the speaker finds convenient to pick out as "Smith's murderer"; the speaker's commitment as to whether the person referred to actually murdered Smith is unimportant in this latter case, and it may even be altogether lacking.

(24) *Smith's murderer* is insane. (Donnellan 1966:285)

According to Borthen, attributively-used definite descriptions may be used bare in Norwegian if they include a superlative adjective. The following example is supposed to illustrate this:

(25) *(Den) beste eleven på prøven i neste uke* skal få NORWEGIAN
(DEF) best student.*def* on test.*def* in next week will receive

en premi.
INDF reward ((5) in Borthen 1998:5)

'*The best student on the test next week* will receive a reward.'

The definite article form is merely optional in (25). An example in which the article cannot be omitted is the following:

(26)a ?? *Høyeste mann* fridde til Kari. NORWEGIAN
?? tallest man proposed to Kari ((2a) in Borthen 1998:4)

'*The tallest man* proposed to Kari.'

(26)b *Den høyeste mannen* fridde til Kari. NORWEGIAN
DEF tallest man.def proposed to Kari ((2b) in Borthen 1998:4)

'*The tallest man* proposed to Kari.'

Borthen states that the bare superlative in (26)a is "not well-formed", and ties this to the fact that *the tallest man* cannot be read attributively, only referentially. She writes:

> "The utterance in [(26)] presupposes a set of contextually given men. If the tallest man was also the fattest man, then the speaker could just as well have used the description *the fattest man* and obtained exactly the same effect as with the original description, or he could have referred to him by name. It is extremely unlikely that the exact attribute of being tall is crucial to the speaker's utterance in [(26)]. Rather, what is crucial is what man proposed to Kari." (Borthen 1998:4)

In comparing (25) with (26), note immediately that (25), the "attributive" description, contains what would be classified as a "complete functional description" here, whereas

the description in (26) is "incomplete", because the domain of men relative to which the subject of (26) is tallest must be specified "contextually" (i.e. outside of the minimal proposition), as Borthen rightly observes. So, is every attributively used superlative description complete in our sense, and is every referential description incomplete in our sense? If so, we will be able to integrate the definiteness marking alternation in Norwegian into the present model without further ado. But there is an obvious complication: Donnellan's original example (24) is clearly a complete description, and yet it is supposed to admit both readings. First of all, no one denies the existence of the attributive reading for *Smith's murderer* in (24). The referential reading seems more problematic, because at least according to my own intuitions, it is impossible to use a complete description referentially (in Donnellan's sense). Donnellan asks us to imagine a court room in which the person accused of having murdered Smith behaves oddly, and a spectator utters (24). But it appears to me that the description *Smith's murderer* is simply infelicitous here. It is not that the addressee would run the risk of misunderstanding the speaker: It is rather that in the court room situation, a speaker would not use this type of description at all; a natural choice would either be a pronoun (*He's insane*), or, if available, a proper name (*Jackson is insane*), or else a demonstrative description (*That man is insane*), or perhaps also a sortal definite description (*The accused is insane*), but not a functional description. This can be accounted for with Ariel's (1990) "accessibility theory" of reference in connection with my assumption from section 3.5.3 that functional descriptions are no-accessibility markers. The oddly behaving accused in the courtroom will be highly accessible as a referent, and so a form signalling a certain degree of accessibility must be chosen. Quite apart from this concern, there is little room for a referential/attributive distinction in the present model of descriptions, anyway: Every definite description has a background implication to the effect that the descriptive condition applies correctly, because otherwise the function that the description is based on (either *iota*, or the nominal functor, as in the case of *murderer*) will produce no output. In other words, while the descriptive content of a definite description is never asserted, it is always presupposed (to apply correctly), and so Donnellan's dichotomy cannot be accommodated here, unlike the opaque / transparent distinction. Nevertheless, it is conceivable that his observations could at least partly be preserved in this framework. It appears that Donnellan's "attributive" readings always include a modal element, which comes out more clearly in the use of the *whoever*-paraphrase: Thus, on the attributive reading, (24) can be paraphrased as *Whoever murdered Smith is insane*, which sounds like quantification over possible situations. Perhaps then the attributive reading of (24) can be rendered as something close to *In every world situation epistemically accessible from ours ("in view of what we know"), the murderer of Smith in that world situation is insane.* This is like an opaque reading induced by a covert modal operator. The second, "transparent" reading would simply be *The murderer of Smith in our world situation is insane*, with no need to quantify over worlds. But this would presumably not be the same as what Donnellan thinks of as the "referential" reading, because the descriptive content still makes an essential contribution, and Donnellan (1966:286) insists that sentences containing referentially-read descriptions can be true even if the description

does not apply to the intended referent. But note that this can be explained as an essentially pragmatic phenomenon without distorting Donnellan's line of argument (cf. Kripke 1977, Neale 1990: chapter 3). Anyway, I will leave my speculations at that and return to Norwegian, to see whether the data there can be captured without appealing to the problematic attributive / referential distinction.

The contrast between (25) and (26) seems to suggest that the distinction between complete and incomplete descriptions indeed plays a role. From the discussion of superlatives in HC in section 4.5.5, it should be clear that the subject description in (25) would be bare in HC, whereas that in (26) would be *la*-determined. *the best pupil on the test next week* determines an unambiguous individual inside the minimal proposition, whereas *the tallest man* needs a resource situation specifying the domain in which the referent is the tallest man. So, it appears as if Norwegian definiteness marking is governed by the same rule as HC as far as superlatives are concerned, with the sole difference that in HC complete superlative descriptions must be bare, whereas they *can* but *need not* be bare in Norwegian. But here comes an additional twist. Consider the following Norwegian example:

(27) [Whenever I need to book a hotel,]
Jeg tar alltid inn på *dyreste* *hotellet*. NORWEGIAN
I take always in on most-expensive hotel.*def*
((3a) in Borthen 1998:5)

'I always take *the most expensive hotel*.'

Here we have a clearly *in*complete superlative description, since *the most expensive hotel* must be interpreted with respect to a domain specified outside the minimal proposition. Nevertheless, the superlative is felicitously bare in (27). In Borthen's theory, this falls out of the non-referential nature of the description: *the most expensive hotel* has a bound variable-like interpretation in (27), i.e. what we have here is a case of "relative uniqueness" in the sense of Kadmon (1990) (cf. section 4.5.1.3), governed by quantification over situations (*whenever*). In contrast, Donnellan's referential use is such that the speaker has a single individual in mind, and this cannot be the case with *the most expensive hotel* in (27). But still it is an incomplete description, because it contains a (bound) resource situation variable. The situation-semantic formalization (with the protasis simplified to include only a set of expensive hotels) bears this out:

(27)F $\forall_{min}s$ [[$\exists$x[expensive hotels(x)(s)]] $\rightarrow$ $\exists_{min}s^1$ [s $<_p$ s^1
& take(speaker, f_{-est}(expensive hotel)(s))(s^1)]]

From this example, we learn that not every attributively used description is semantically complete. The comparison between (26) and (27) furthermore shows that, unlike in HC, incompleteness cannot be assumed as the decisive factor in the distribution of bare superlative descriptions in Norwegian. But it can still be described in situation-semantic terms, as follows:

Definiteness marking rule for Norwegian superlatives:

Mark definite if unambiguity holds with respect to an unbound resource situation parameter; otherwise mark bare or definite.

Unlike in the creoles, the bound or free status of the situation variable effects definiteness marking in Norwegian. In HC for instance, the superlative description in (27) would have to be *la*-marked simply because it needs a resource situation to be interpreted. That this resource situation is bound by a habitual quantifier is totally irrelevant for HC. Also note that for the above rule for Norwegian to be ultimately adequate, it has to be shown that attributive uses of the type shown in (25) really involve a quantifier over possible situations, as the *whoever*-paraphrase suggests.

7.2.3 Lakhota

In the introduction, I mentioned Lakhota. According to Lyons (1999:53), it has a specialized post-nominal anaphoric article *k'ų* alongside the unmarked *kį* (also post-nominal), which can be used not only with anaphoric descriptions, but also with all other types. The following pair of examples is supposed to illustrate how this system works; the translations are Lyons':

(28)a *He wic'aśa kį* kaspe'. LAKHOTA
that man *ki*-DEF wise ((15a) in Lyons 1999:54)

'That man is wise.' (deictic or anaphoric)

(28)b *He wic'aśa k'ų* kaspe'. LAKHOTA
that man *ku*-DEF wise ((15b) in Lyons 1999:54)

'That man (previously mentioned) is wise.' (only anaphoric)

In both sentences, the definite determiners co-occur with a demonstrative form, which complicates the matter. Lyons (ibid.) asserts that every demonstrative determiner must be accompanied by one of the definite determiners, but that both the definite determiners can occur without a demonstrative. The following examples, from Pustet (1992), show that this is indeed so:

(29) Ic'ų'hą *winų 'hcala k'ų* g.lih'ų 'ni. LAKHOTA
meanwhile old woman *ku*-DEF come home ((76) in Pustet 1992:25)

'Meanwhile *the old woman* came home.'

(30) *Wį'yą kį* hąke'-ya *t'ako'sku kį* a-ki' scu. LAKHOTA
woman DEF end- ADV son-in-law *ki*-DEF 3.SG.AG fall-in-love-with
((28) in Pustet 1992:10)

'Finally *the woman* fell in love with *her (the) son-in-law*.'

The question now is whether Lakhota can be folded into the taxonomy of definiteness marking developed thus far. Obviously, *k'ų* signals a resource domain, since every anaphoric description needs a resource by our assumptions. The remarkable thing about Lakhota is that it matters what *kind* of a resource is involved. At this point, recall that Barwise & Perry (1983) assumed different communicative settings generating resources, which I further honed using terminology from Clark & Marshall (1981): These authors differentiate between "community membership knowledge", "physical co-presence" and "linguistic co-presence". In order to come to grips with Lakhota, it is apparently necessary to decompose the notion of a resource situation again into those constituents. We can then state that the following rule of definiteness marking for Lakhota:

Definiteness marking rule for Lakhota:

Use *k'ų* or *kį* iff unambiguity holds in a resource situation based on linguistic co-presence; use *kį* in all other cases of situation-based unambiguity.

The examples in the literature show that Lakhota does not use any determiner with proper names, although it remains unclear whether *kį* is used with kind-denoting descriptions or not. If it is not, the above rule would have to be altered accordingly. Be that as it may, it becomes obvious from this rule that, in order to integrate Lakhota into our scheme, the category "sortal description", i.e. the one comprising the mutual knowledge-based descriptions, has to be split into its constituents. This was not necessary as long as we were concerned with the creoles, since the creoles are *not* sensitive to the kind of resource situation involved in a sortal description: Anaphoric, deictic and recognitional descriptions are all *la*-marked. Lyons (1999:53f.) mentions Hidatsa and Hausa as two more languages with a special anaphoric article. Now, once we carve out anaphoric descriptions from the category of mutual knowledge-based descriptions, the question arises of whether we can also find languages in which deictic or recognitional descriptions are equipped with a special marker. As far as deictic descriptions are concerned, Lyons (1999) asserts that there are no known languages with a special determiner only used for reference to physically co-present objects. Every determiner used for physical co-presence reference can also be used for anaphoric reference. This is not predicted by the present model, although it does not run counter to it, either. At any rate, it must be noted that Lyons does not specify exactly which and how many languages are sampled in his study, so that the existence of a specialized physical co-presence determiner should not be excluded categorically. As for the class of recognitional descriptions, Himmelmann (1996:62ff.) proposes that a number of

Australian languages, among them Nunggubuyu, have a dedicated recognitional determiner, although he is not entirely sure whether these cannot also function in the anaphoric mode. Himmelmann emphasizes that the determiners in question are demonstratives: Even though they do not express any proximity distinctions, they are morphologically related to (and derived from) demonstrative forms specialized in local deixis. If it is correct that these forms are confined to the recognitional use, however, they satisfy the demands posed by our semantic typology, and their demonstrative origin is not relevant. Nonetheless, it is suggestive that these forms of Nunggubuyu and related languages are derived from demonstratives. In the case of recognitionally used descriptions, it seems rather plausible that the speaker uses a semantically more complex expression, because reference is made to an entity outside of the present discourse situation, and this doubtlessly requires some more complicated inferences on the part of the hearer (he must retrieve a suitable situation in which to locate the referent). Recall in this connection that the canonical form of recognitionally used noun phrases in languages like English, according to Himmelmann, is with a purposive modifier, such as a relative clause.

Presumably more common than these fine-grained codings of resource situation types are patterns like in creole, where no such distinctions are drawn. But even there, variation is still possible, as the comparison between HC and MC revealed. Those two languages differ as to whether reference to a resource situation must always be signalled (HC), or only when unambiguity is not guaranteed by the nominal content alone (MC).

7.2.4 Amern

Amern is a dialect of German spoken in a small area of the western Ruhr Region. It has two definite article forms: *dä* and *dər*. The first is similar in distribution to creole *la* and the Fering D-article, the second to creole zero / the Fering A-article. Synthesizing the data and descriptions presented in Heinrichs (1954) and Hartmann (1982), we arrive at the following classification:

The *dä*-article is used with:

- anaphorically used descriptions
- deictically used descriptions
- cataphorically used descriptions (i.e. descriptions with selective and re-identificational relative clauses)
- functional descriptions with implicit arguments.

The *dər*-article is used with:

- certain proper nouns (persons, rivers, and others)

- kind-referring descriptions
- absolutely uniquely referring descriptions (*the sun*, *the weather* etc.)
- complete functional descriptions.

The interesting thing in comparison with Fering is that functional descriptions with implicit arguments have switched sides again. In Amern, they pattern with "context-dependent" (resource-based) descriptions, again like in HC, and not with the "context-free" ones, like in Fering. On the other hand, absolutely uniquely-referring descriptions are in the context-free group, like in Fering (and MC), and not in the context-dependent one, like in HC. Here is an example involving two functional descriptions with implicit arguments in Amern, from Heinrichs (1954):

(31) Vör worən en də näldər kerək on wolən os äns AMERN
we were in DEF of-N church and wanted us once

di altöörs bekikə. Du säät *dä köstər* vör os…
dä-DEF.PL altars look-at there says *dä*-DEF sexton to us (Heinrichs 1954:99)

'We were in the church of Waldniel and wanted to have a look at *the altars*. *The sexton* said to us…'

Both *the altars* and *the sexton* are functionally related to *the church of Waldniel* with respect to. the minimal situation in which it is introduced. Heinrichs (ibid:99f.) explains:

> "Via the concept 'church', the concepts 'altar' and 'sexton' are immediately invoked, and therefore the *dä*-article is used."
>
> ("Durch den Begriff 'Kirche' werden unmittelbar auch die Begriffe 'Altar' und 'Küster' in uns wach, und deshalb steht der *dä*-Artikel.")

The above classification suggests the following definiteness marking rule for Amern:

> *Definiteness marking rule for Amern (tentative):*
>
> Use the *dä*-article iff unambiguity holds in a resource situation smaller than the world-situation; otherwise use the *dər*-article.

Again, this rule has limited applicability. For one thing, in Amern too the article forms encode proximity distinctions, like those in Fering. With respect to (31), Heinrichs (1954:100) comments:

> "If *dər köster* were used, it would refer to the sexton of the native village [of the traveling group, J.W.] that came along for the visit."

("Stünde *dər köster* da, so bedeutete das den Küster des Heimatdorfes, den man vielleicht mitgenommen hatte.")

Apparently, the *dər*-article of Amern signals proximity to the speaker, whereas the *dä* article does not have this feature.[80] In HC, *the sexton* would always be *la*-determined, whereas in MC the determiner might or might not be used, but with no discernible semantic difference.

Another interesting detail of Amern not captured by the above rule is revealed by Heinrichs (1954): Superlative descriptions and descriptions based on ordinals take the *dər*-article when they are used "attributively" (by which Heinrichs means "not discourse-linked"). But when they have an anaphoric relationship to referents introduced earlier, they can also take the *dä*-article:

(32) [Two men have just been introduced into the discourse.]

Dä	*eerstə*	*mon*	jeng	dä	weech,	*dä* *twädə*	AMERN
dä-DEF	first	man	went	DEM-dist	way	dä-DEF second	

dezə	weech. (Heinrichs 1954:102)
DEM-prox	way

'*The first man* went that way, *the second* this way.'

Recall now that, in HC, non resource-based superlative descriptions (like *the first man on the moon*) are obligatorily bare, whereas discourse-linked ones, like those in (32), obligatorily take the determiner. The same demarcation comes up again in Amern, with the sole difference that both forms remain possible in the resource-based case.

In my own dialect of German, Swabian (spoken in the south-west of Germany), there are also two definite article forms, pronounced almost the same as those in Amern: the first form has *där*, *die* and *des* as the masculine, feminine and neuter forms of the nominative singular; the second form has *dər*, *d'* and *'s*. The distribution of these forms is identical with that found in Amern, except for functional descriptions with implicit arguments, where it is the second, weaker form that is used, not the stronger one. The same appears to be true of Bavarian, another southern German dialect (cf. Schwager 2007).

7.2.5 Summary

The above outline of split definiteness marking systems has shown that there is a considerable amount of variation concerning the exact position of the split, but also that this variation can be captured using basic notions of situation semantics and the

[80] I presume that the notion of proximity would have to be spelled out in social or emotional terms.

unambiguity theory of definiteness. A persistent factor is whether resource situations are involved in producing unambiguous referents or not. Individual variation concerns questions like whether the resource situation is free or bound, how comprehensive the resource is, or how it is constructed. The proximity distinction found in Fering and Amern could not be captured within the formalism proposed here; doing this would require extending the theory by another parameter coding that particular distinction. This parameter would distinguish proximal from distal resource situations.

Another interesting result of our comparative *tour d'horizon* is that functional descriptions with implicit arguments exhibit a remarkably undecided behaviour with respect to the definiteness marking split: While directly anaphoric descriptions are *always* opposed to kind-referring and complete functional descriptions in the systems just investigated, functional descriptions with implicit arguments take the context-dependent article in HC and Amern, the context-free article in Fering and Swabian, and are in what looks like free variation in MC. Why is this class of descriptions so variable? – The answer might be that functional descriptions with implicit arguments incorporate properties from both the context-free and the context-dependent description types: They have functional head nouns, but their internal argument must always be retrieved from the surrounding context, like the referent of sortal descriptions. In some languages and dialects (Fering, Swabian), the element of functionality is valued higher, which is why the context-free article is used; in other languages and dialects (HC, Amern), the element of context-dependence is valued higher, and thus the resource-based article is used. MC appears to be a language that cannot decide which element should be valued higher, and thus admits both articles in this construction.

A concluding comment on the quasi-typological category "split definiteness marking language" is in order. A synopsis of all the languages dealt with in this study reveals that split definiteness marking systems are not an exotic variety. In fact, French is the only language in our sample that uses one and the same form across all unambiguously-denoting description types. The negative equivalent of French would be the Russian type, where zero is used across all contexts. All other languages discussed above make a split at some point or other. In HC, MC, English and Norwegian, the split becomes manifest in presence vs. absence of the one definite determiner form the language has; in Lakhota, Fering and the German dialects, there are two phonologically realized forms. This result substantiates my earlier claim that while unambiguity might by a universal ingredient of definiteness markers, the empirical reality is diverse, so that relativising unambiguity to the domains in which it may hold becomes a requirement of descriptive accurateness. If it makes sense to speak of such a thing as "*the*" definite determiner from a universal perspective, this would have to be a pure unambiguity marker. But then we still have to further specify language-specific rules pertaining to when this abstract formative becomes a morphological reality. French stands out in this respect, because in French the assumed core meaning of the definite article apparently does not need to be restrained in any way – apart from the notion that unambiguity must be situation-relative. All the other languages dealt with here display determiner

distributions which make it necessary to constrain the marking of unambiguity in some more specific way. I have analysed these constraints using situation semantic terms. Situations as used in this study are one way to model the phenomenon of domain restriction permeating natural language. In the final chapter, I would like to discuss the relevance of our findings for this more wide-ranging phenomenon
.

8. Definite descriptions and the semantics-pragmatics boundary

In the previous chapter, I recapitulated the most important results of this study concerning the empirical question of which languages use the definite determiner under which conditions. In this final chapter, I would like to revert to the more theoretical issues dealt with in the first chapters, but through the eyes of one enlightened by a careful look at some contrastive data. I will first recap the most important theoretical assumptions and conclusions reached in this study, and then go on to show how they are relevant for the current debate about how the context-sensitivity of definite descriptions (and other noun phrase types) should be conceptualized in a linguistic theory.

The initial assumption was that definiteness is all about unambiguity. Where definite descriptions are concerned, unambiguity must somehow be brought in line with the potential multitude of referents that the employed predicate contributes. I argued that there are two primary ways in which this might be done, depending on the type of predicate: If the predicate is sortal, there must be an operator that selects an unambiguous individual out of the set of possible referents; in the case of definite descriptions, this operator (*iota*) sorts out the unique / maximal individual to which the predicate in question applies. Predicates are intrinsically situation-relative; consequently, uniqueness / maximality is also situation-relative. The description *the P*, where *P* is a sortal predicate, thus comes to denote the unique / maximal individual which is *P* in a certain situation only – unless the situation parameter is abstracted over, in which case a kind-denoting expression results. For reasons having to do with compositionality, I proposed that the situation variables associated with object-level sortal definite descriptions must be free in their minimal clauses, even though they can be bound by an operator further away (this was the case of the donkey descriptions). Sortal definite descriptions, when interpreted as object-level expressions, thus always denote in a context-dependent manner.

In contrast, (complete) functional descriptions were shown to have a different way of assuring unambiguity. Functional nouns create one-to-one mappings from (sequences of) individuals to individuals, without the need for a maximization operation. The observation that functional descriptions are self-sufficient as far as their unambiguity implications are concerned motivated the rule of "Economy of Domain Assignment" decreeing that a domain parameter may only be shifted to a contextual value if the associated noun phrase requires this for its interpretation. Context may be relevant to the interpretation of functional descriptions, too, but in a different manner, namely if the

argument(s) that the nominal function needs is left implicit. This was the case of the so-called inferables.

The investigation of data from French-related creoles then helped to strengthen and precisify the unambiguity-theoretic outlook on definiteness. Crucially, we saw that creole grammar makes a morpho-syntactic distinction between unambiguity via contextual maximization on the one hand and via noun phrase-internal assignment of referents on the other. The differences in the definite determiner use between HC and MC were shown to be grounded in different ways in which the context contributes to the establishment of an unambiguous referent.

Let me now point to the relevance of these findings for the more general topic of "domain restriction", the conventional term used to label the fact that many noun phrases are interpreted with respect to domains smaller than the whole universe (which does not come as a shock to situation semanticists, of course).

While it is agreed that the context in which the noun phrases are placed play an important role in determining their domains of interpretation, there is a lively controversy as to whether this determination is to be conceptualized as a semantic or a pragmatic process. Virtually all of the works cited in chapter 3 are in favour of the view that domain restriction affects the semantic component. Other prominent advocates of this position are von Fintel (1994), Stanley and Szabo (2000), Schwarzschild (2002), Martí (2006), to name a few. All of these authors either assume that certain expressions (determiners, quantificational items or predicates) have a domain parameter as a matter of lexical specification, be it a situation variable, an unpronounced contextual predicate, or the like; or else they assume that the syntax generates certain structural positions in which domain variables are inserted in the course of the derivation of "LF", the syntactic layer interfacing the conceptual domain. Whatever the details, all these authors consent that domain restriction influences truth conditions, the output of the semantic layer. Other researchers, mostly from the philosophical camp, deny that domain restriction has an impact on semantic content. Among them are Bach (2000, 2004), Lepore (2004) and Cappelen & Lepore (2005).[81] Those authors take the Gricean line that everything that *can* be explained in the pragmatics *should* be explained in the pragmatics, because that is the level of meaning at which the simplest and most general rules can be stated. Applied to incomplete definite descriptions, this means that we should always assume a non-restricted reading as the literal semantic content, thus keeping the semantics at its simplest, and only then ask what general principles of rational communication can account for the fact that in a given context, *the table* is not actually interpreted as meaning 'the unique table in the universe', but instead as e.g. 'the

[81] Yet another view is held by Récanati (2004a) who argues that domain restriction is a pragmatic process, but can nevertheless influence truth conditions.

unique table in this room', and likewise for all other descriptions we classified as incomplete. For instance, it is argued in Bach (2000) that an unrestricted quantificational statement (Bach includes definite descriptions among the quantifier phrases) is recognized as being too uninformative or too implausible by the rational hearer and that this then leads him to infer that the speaker really intended a more restricted statement. Inferences of this kind are not encoded anywhere in the language, they are not a part of "what is said". Still, Bach considers them to be so well-entrenched and well-understood that he is willing to accept that "literally speaking", speakers, in using quantificational expressions, make false or truth-valueless statements almost all the time.

In this study, I advocated a semantic outlook on domain restriction: Domain variables are part of the output of the semantic component. Thus, relativisation of nominal contents to situations is part and parcel of the literal, semantic content of utterances. In the following, I will pick out some results of this study that might help in rebutting the pragmaticists' objections to the semantic approach.

Perhaps the most frequently-made objection against semantic approaches is that they *overgenerate*: Because it is part of the literal meaning of noun phrases, restriction is predicted to apply to every single nominal in every single utterance. But it is easy to come up with examples in which domain restriction is undesirable, intuitively and/or out of theoretical considerations. A clear statement of this sort of criticism is found in Bach (2000). In this paper Bach objects to Stanley & Szabó (2000), who use contextually determined functions "*f(i)*" to model the relativisation of nominal content to domains. How these functions work in detail need not concern us here; suffice it to say that they are the equivalents of our situation variables. Bach writes:

> "Thus, utterances of sentences like [(1)] and [(2)] represented as containing domain variables,
>
> (1) The first six <presidents of the United States, f(i)> were signers of the Declaration of Independence.
>
> (2) Most of the <retired people in Arkansas who voted for Dole in 1996, f(i)> were Republicans.
>
> do not express propositions unless the context makes clear which first six presidents of the United States or which retired people in Arkansas who voted for Dole in 1996 the speaker is talking about. For on the semantic view, the domain variable is always there, waiting to be given a value, no matter how many adjectives, prepositional phrases, and/or relative clauses modify the noun in the quantified noun phrase and no matter how specific the modification." (Bach 2000:275)

It should have become clear in the present study that this is not a charge defendants of a semantic approach to domain restriction must accept: Different types of unambiguously denoting noun phrases were investigated, not all of which need to be interpreted relative to contextual domains. More particularly, the bracketed noun phrase in (1) is inherently unambiguously-denoting due to the ordinal *first* which was presented in section 4.5.5 as being among those nominal modifiers that map noun denotations to unambiguous individuals due to their functional character.[1] In the noun phrase in question in (2), we have a so-called "establishing" relative clause, discussed in section 4.7. Its distinguishing property is that it picks out an unambiguous individual in conjunction with the head noun it modifies so that no domain-relative interpretation is required to identify the referent. Bach's alleged counter-examples to semantic domain restriction are not really counter-examples because the fact that these noun phrases do not need to be contextually restricted can be explained in a principled manner; all that is needed is some situation semantics, plus a rule like "Economy of Domain Assignment" (section 3.5.2). It is true that I motivated this rule by what can be called pragmatic or cognitive considerations (namely, that a domain shift is more "costly" than clause-internal domain assignment); but importantly, once such a rule is in place, pragmatic counter-arguments based on arbitrary assignments of values to domain variables will not be carried through any more. Furthermore, I regard "Economy of Domain Assignment" as a properly semantic principle, more than just a defeasible heuristics, as long as no plausible evidence is adduced that this rule can be cancelled at any time that the context of utterance so suggests.

To sum up this point, Bach's phrase that "the domain variable is always there" can be accepted, but it all depends on what we make of its property of "waiting to be given a value". It is crucial to see that we have robust semantic mechanisms at our disposal which prevent the exceeding context-dependence that Bach is worried about here, viz. *identification* and *abstraction* (cf. section 7.1).

The above response to the pragmaticists' objection also pertains to quantificational phrases. I find it reasonable to address this issue, too, because the very label "domain restriction" is often used elliptically for "*quantifier* domain restriction".[82] Bach claims that "to be consistent, it [the semantic approach, J.W.] must say that even sentences like (3) - (5), which are naturally understood without any domain restriction, contain domain variables anyway" (Bach 2000:274).

(3) All <men, f(i)> are mortal.

(4) Hardly any <food, f(i)> is blue.

(5) There are more <ants, f(i)> than <mosquitoes, f(i)>.

[82] This has to do with the fact that many authors doing research on this topic consider definite descriptions to be quantificational in nature, too. However, the issue of domain restriction with definite descriptions is, in principle, independent of the technical question of whether they are terms or quantifiers.

The author points out that, on a pragmatic approach, there is no problem because restricted readings are inferred via plausibility considerations from semantically complete strings; if there are no grounds for engaging in such considerations, there simply will be no restriction whatsoever. – Admittedly, I have not dealt with quantificational phrases in any detail in this study; but there is reason to be confident that the situation-semantic outlook adopted here is flexible enough to provide an explanation for how restricted and non-restricted readings of quantifier phrases are derived, too. For instance, however quantificational noun phrases might be treated in situation semantics (cf. e.g. Cooper 1996), it is clear that examples (3) – (5) do not involve any resource situations, and so no restricted readings are predicted in the first place. Below are some examples from HC showing that quantificational phrases are marked as restricted (resource-based) in case the nominal content is relative to some previously introduced set of objects (recall that I assume there to be a silent *la* before every occurrence of *yo* in my informants' dialect of HC) – (6)a,b –, whereas these remain bare if no such contextual set is required –(7), (8):

(6) Gouvènman nou fè yon komite ki gen dis ekspè HAITIAN CREOLE
government our make INDF committee REL have ten expert

pou rezoud pwoblèm polisyon anvironman.
for solve problem pollution environment (E.F.5.4.)

'Our government convened a committee of ten experts to tackle the problem of environmental pollution.'

a) *Laplipa ekspè yo* dakò sou mezi nou dwe pran. HAITIAN CREOLE
most expert PL agree on measure we must take
(E.F.5.4.a.)

'*Most of the experts* agree on the measures to take.'

b) *Tout ekspè yo* dako ke fok nou komanse rapid. HAITIAN CREOLE
all expert PL agree COMP must we begin quickly
(E.F.5.4.b.)

'*All the experts* agree that it is necessary to take action quickly.'

(7) *Tout Ayisyen* gen dwa di sa yo panse, lib, jan yo pito. HAITIAN CR.
every Haitian have right say DEM they think free manner they prefer.

'*Every Haitian citizen* has freedom of speech.'
(*Konstitisyon Repiblik d'Ayiti*: chapit 3, nimewo 28)

(8) Pou *laplipa paran*, premye timoun an li pi difisil. HAITIAN CREOLE

for most parents first child DEF it most difficult
(E.F.74.13.)

'For *most parents*, the first child is also the most difficult one [to bring up].'

This is all as expected. Given the semantics of creole *la* expounded in earlier chapters, these examples establish that resource situations are involved in restricted readings of quantificational noun phrases, whereas they are absent in the case of non-restricted, general readings. A large part of this study was about providing a semantics for this morpho-syntactic contrast. The tools that we found to work will no doubt also apply when quantifier phrases are considered. Again, adopting a semantic approach to domain restriction does not imply being at a loss to account for variation as to the when and how of restriction.

Still regarding the issue of overgeneration, Bach argues that when they are in predicative position, noun phrases do not need to be restricted. The author thinks that when adding a domain-restricting device to the indefinite description *a bottle* in (9) below, we introduce "seemingly needless syntactic complexity" (Bach 2000:274):

(9) That is a bottle. ((9) in Bach 2000:274)

According to Bach, a semantic approach to domain restriction can do nothing to prevent this unwanted complication because every nominal must, by assumption, co-occur with a domain parameter. My reply to this is that yes, predicate nominals do have a situation parameter (*qua* being predicates), but this assumption is independently justified by the need for a circumstance of evaluation – a topic situation – for the topmost predicate in every complete sentence. There is no needless complexity here.[83]

The next point is of a fairly general nature. It concerns the question of when we are justified in attributing a meaning-related phenomenon to the structural, grammar-based make-up of language at all. Even if we manage to show that it is *possible* to make the required differentiations in the semantics, there still remains the question of whether it is *necessary* to make them in the semantics. In deciding on this issue, one guideline I find reasonable is that what we posit in the semantics must be visible in the syntax/morphology of at least some languages. It is generally accepted that semantics is tightly constrained by the input it gets from syntax. Consequently, while there are no external restrictions on what we assume to be the semantic values of linguistic entities (set-theoretic entities, mental representations, etc.), the linguistic strings on which we *base* these meaning assignments are to a large part pre-determined by syntactic information. Given these considerations, proponents of the pragmatic view on domain

[83] This answer incidentally illustrates the merits of one of the nicest features of situation semantics, namely that of having the same semantic entity (viz. situations) as both units of contextual parametrization (what sequences of individuals do in other approaches) *and* circumstances of evaluation (what possible world-indices do in other approaches).

restriction ask: What are the syntactic grounds for attributing domain restriction to the semantic component? – In fact, this point is well taken, for it is common practice among semanticists to take it for granted that domain restriction proceeds silently, having no visible effect in the grammar: Constituents are "unarticulated", indexicals are "hidden", parameters are "covert", and the question of why this should (always) be so remains unaddressed. Whether one prefers domain variables, functions or context-predicates, all of these only come up in the semantic analysis, never in the syntax which is supposed to be the level that feeds the semantics. Quite understandably, Neale (2004:83) warns that "we shouldn't get hooked on aphonics" when trying to account for the domain-relative character of nominal reference. – Then again, had Neale based his inquiries on Haitian Creole instead of English, he might not have made the above remark. Independent of the particular semantic implementation one chooses, creole *la* is so evidently involved in the business of domain restriction that the analyst is bound to forget about his fear of aphonics. A purely pragmatic account of domain restriction becomes implausible against the background of data from languages that have a dedicated morpheme signalling the need to choose a domain for the nominal expression in question. If a meaning-related distinction is regularly marked in the grammar, we should regard it as semantic in nature.[84] At least I do not see how such syntactic regularities could be accounted for in a pragmatic theory. When e.g. HC or MC are under consideration, the plausibility-based approach to domain restriction as defended by Bach is not viable: One cannot say that e.g. in order to interpret creole *tab la* 'the table', one starts from the meaning 'the unique table in the universe' and then infers that the unique table in a narrower domain is speaker-intended: The form *tab la* already *literally encodes* that interpretation must be based on a suitably restricted domain, so the transitional interpretive step from an unrestricted to a restricted domain will not even be taken. The same goes for quantificational expressions like *laplipa ekspè yo* 'most experts' (cf. example (6)).

Drawing one's examples exclusively from English is too short-sighted if one wants to find out about the possible grammatical entrenchment of domain restriction. Unlike the creoles considered here, English obviously has no morpheme that unambiguously signals domain restriction. Instead it makes another, though not unrelated, distinction between domains that can be actualised and domains that cannot be actualised (cf. section 7.1). Whether we should conclude from this that domain restriction (in the ordinary sense) operates semantically in creole and pragmatically in English, is debatable. In my contrastive analysis, I have concentrated on grammatical contrasts of the most salient type, viz. presence vs. absence of a determiner, or presence of two morphologically distinct markers. But there is a host of other ways, some more subtle, in which meaning-related distinctions may be reflected in the grammar. Several of them are addressed in Delfitto & Corver (1998). These authors strive to establish on empirical

[84] Bach (1999:74) also subscribes to this demarcation of the semantics-pragmatics boundary: "[S]emantic information pertains to linguistic expressions (sentences and their constituents), whereas pragmatic information pertains to utterances and facts surrounding them. Semantic information about sentences is part of sentence grammar, and it includes information about expressions whose meanings are relevant to use rather than to truth conditions."

grounds that domain-relativity (what they call "familiarity") is a syntactico-semantic feature of universal grammar. Their data are taken from Germanic and Romance languages. In section 7.1 I represented French as a language that is insensitive to domain restriction with definite descriptions because it marks all types with its sole definite determiner, be they in need of restriction or not. However, Delfitto & Corver (ibid:286f.) demonstrate that there are object agreement facts pointing to a grammatical anchoring of domain sensitivity even in French.[85] Likewise, scrambling in Dutch is shown to presuppose that the referent of the scrambled constituent is discourse-linked. In fact the authors suggest that movement operations like scrambling are among

> "…a specific class of computational operations which is resorted to in order to compensate the high degree of morphological ambiguity that is often found in natural language. Morphological inspection is often not able to reveal whether a certain determiner is endowed with the 'formal' feature encoding 'familiarity' […]." (Delfitto & Corver 1998:282)

Seen from this perspective, scrambling in Dutch is a limited means of compensating for the lack of a determiner system encoding the distinction between context-dependent (familiar) and context-independent (non-familiar) interpretation of noun phrases, effected in creole by the distinction *la* vs. zero.[86] The authors provide the following examples of scrambling in Dutch:

(10) Ik heb *de bijbel*$_i$ nog nooit t_i gelezen. DUTCH
I have DEF bible yet never t_i read
((18b) in Delfitto & Corver 1998:293)

'I haven't yet read *the bible*.'

(11) Ik heb nog nooit *het laatste artikel van Chomsky* gelezen. DUTCH
I have yet never DEF latest article by C read
((18c) in Delfitto & Corver 1998:293)

'I haven't yet read *the latest article by Chomsky*.'

---

[85] One of their examples is the following:

(i) Dis-moi combien de fautes as- tu fait / faites. FRENCH
tell me how-many of errors have you made / made-AGR ((1) in Delfitto & Corver 1998:286)

'Tell me how many mistakes you made.'

If the participle form carries object-agreement morphology ('*faites*'), the errors that the speaker asks for are taken from a contextually-salient set of errors (this would best be expressed with a partitive in English: "How many of the errors have you made"). If there is no agreement morphology ('*fait*'), the set of errors is unrestricted.

[86] Delfitto & Corver themselves present Fering as a language making the distinction in question in the determiner system (ibid:312f.).

In (10), the description *de bijbel* 'the bible' has undergone scrambling out of its verb-adjacent position (marked by the trace symbol t_i); in that case, the sentence is understood to be about a particular copy of the bible, i.e. the referent must have been mentioned before in the discourse or be physically present; this is a typical case of a resource-based interpretation of a sortal description (*the book* would have been possible as well). In contrast, in the complete functional description *het laatste artikel van Chomsky* 'the latest article by Chomsky' in (11) remains in its base position, because "complete definite descriptions preferably do not undergo scrambling" (ibid:293). The parallels to the definiteness marking facts of creole are evident. Besides scrambling, Delfitto & Corver enumerate several other grammatical phenomena related to discourse-linked interpretation, such as agreement, clitic doubling and inversion; if we take all of these into account, we may arrive at an even more precise notion of what kinds of domain-relativity there are, and how natural languages respond to them.

Delfitto & Corver (ibid:282) also indicate that arguments from economy are not decisively in favour of a pragmatically-based theory of domain sensitivity: On the one hand, it may seem unnecessary to burden the grammar with meaning-related distinctions that can be derived independently with the help of general principles of communication, as the pragmaticists stress; on the other hand, there is the fact that principles of grammar are innate and thus do not need to be learned; such rules can be put to use effortlessly because they are provided by the hard-wired linguistic system that human beings are endowed with. Both viewpoints have an undeniable intuitive appeal, and there is just no way of telling *a priori* which aspects of linguistic meaning are more appropriately attributed to the former, pragmatic aspect of interpretation, and which are better attributed to the latter, semantic aspect. The present study might have helped to see that different languages may decide differently on what is encoded and what is left to infer.

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