Abstract

This paper gives insight into the behaviour of epistemic determiners by comparing and contrasting items that require some knowledge of the speaker and items that require some ignorance, and proposes a formal analysis for both cases. It contributes to a better understanding of the information sensitivity of this type of items by relating it to the well-known problem of ‘identifiability’ in epistemic logic. Two main findings emerge from this investigation. First, the epistemic sensitivity of the items cannot be reduced to ‘knowledge of the speaker’. Second, the relevance of Fregean colours of meaning and distributive differences linked with the combination with abstract nouns show that the basic epistemic value is an element of a more complex network of constraints.

1 Introduction

Determiners and pronouns sensitive to ‘knowledge of the speaker’ exist in different languages, as noted by Haspelmath (1997). Examples are un N quelconque, quelque and un certain N in French, some in English (Farkas, 2002a), irgendein in German (Krifka, 1991; Kratzer, 2001), etc. Broadly speaking, they require either that the speaker do not know or that she know the identity of the referent. We refer to them using the general term of epistemic determiners. They are distinct from determiners termed free choice or irreferential, such as n’importe quel N in French, any in English, opjosdhipote in Modern Greek, etc., which require that the referent be undetermined (Jayez and Tovena, to appear). On the other hand, they share with them the property of conveying particular ‘colours’ of meaning (Frege, 1969) beside contributing quantificational information of the type $\exists$ or $\forall$. For instance, they indicate a certain attitude of the speaker, such as indifference in the case of un quelconque and whatever (von Fintel, 2000), or a given script of

---

1Frege uses the German term Färbung (‘colour’, ‘shade’, ‘tone’) to denote any information that does not contribute a difference in the thought expressed by the sentence. For instance, he notes that ‘This dog howled the whole night’ and ‘This cur howled the whole night’ express the same thought, although they do not characterize the denoted dog in the same way.
choice, e.g. *n’importe quel* (Jayez and Tovena, to appear). Similarly, it is possible to find indiscriminative values analogous to those of *just any* (Horn, 2000), for instance *quelconque* adjective means *mediocre*, and *n’importe quel* N also means ‘a mediocre N’.

This paper gives insight into the behaviour of epistemic determiners by comparing and contrasting items that require some knowledge of the speaker and items that require some ignorance, and proposes a formal analysis for both cases. Sections 2 and 3 provide data on French *un quelconque* and *un certain*. Section 4 aims to contribute to a better understanding of the information sensitivity of these items by relating it to the well–known problem of ‘identifiability’ in epistemic logic. Conditions of non-identification are required by *un N quelconque*, while *un certain*, on the contrary, seems to require that the referent be identified. But in this latter case there must be another independent identification beside the speaker’s knowledge of the referent. Section 5 teases apart differences in the colours of these determiners, i.e. the attitudes they convey, which are responsible for microvariations in their distributions. The discussion of differences and points of contact between ignorance and indifference to the identity of the referent, brings us to contrast the items under examination with free choice items (FCIs). Next, section 6 takes into consideration the fact that the epistemic agent is not necessarily the speaker, but several perspectives may be taken up. Finally, section 7 looks at distributive differences linked with the varying nature of the common nouns epistemic determiners combine with. Section 8 draws together the main achievements of the paper.

To set the stage for our analysis of epistemic determiners, it will be useful to consider briefly our terminology. In this paper, by ‘specific’ we understand any expression which is intended to refer to a single entity. Specificity is relativized to an agent, who is the speaker unless otherwise indicated. We distinguish between *de re* specificity, that we call *epistemic specificity* or *identification*, and *de dicto* specificity. If $P$ is a property that describes the entity under consideration and $B_a$ a belief operator relativized to an agent $a$, the traditional expression of the difference is shown in (1).

(1)  
\[ \exists ! x (B_a P(x)) \]  
(\textit{de re})
\[ B_a (\exists ! x P(x)) \]  
(\textit{de dicto})

However, as noted by Farkas (2002b), the sentence descriptive content corresponding to $P$ cannot be guaranteed to single out an individual, a fact which raises a problem for the epistemic reading. For instance, in (2), Mary may have met several colleagues, still, the speaker may have in mind a particular colleague.

(2)  
Yesterday, Mary met a colleague

Actual situation: yesterday, Mary met several colleagues
Speaker’s interpretation: Mary met John, a colleague of hers
Farkas proposes to use Gunlogson’s (2001) notion of commitment set, where the commitment set of an agent $a$ is the set of her public beliefs, that is the set of beliefs that every agent knows that $a$ holds (Gunlogson, 2001, 39–43). In the case of (2), the commitment set of the speaker would contain the proposition $\exists!x (\text{Mary met } x \& x \text{ is a colleague of Mary})$. Is it really what we want? The situation described in (2) is compatible with the following belief state: i) the speaker believes that Mary met several colleagues yesterday, ii) the speaker believes that Mary met John, a colleague of hers and iii) the speaker ‘refers to’ John, whereby we mean that the sentence is about John.

In such a belief state, the speaker does not believe that there is a unique colleague whom Mary met yesterday. Yet, she refers to a unique colleague she has in mind. To take cases like this into account, we assume that, in addition to overt identification—provided by the properties mentioned in the sentence—one can exploit covert identification resources, constituted by auxiliary properties that narrow down the interpretation. For (2) the difference is as follows:

a) overt identification by means of the property

$$\lambda x. \text{Mary met } x \text{ yesterday} \& x \text{ is a colleague of Mary},$$

b) covert identification by means of the property $\lambda x. x = \text{John}$.

More generally, we assume that a sentence with an overt logical form $\exists x \phi(x)$, in a suitable context, may be interpreted as $\exists! x \psi(x)$, where $\forall x (\psi(x) \Rightarrow \phi(x))$. For instance, (2) can refer to a colleague that Mary met yesterday ($\phi$) and whose name is John ($\psi$). We will exploit this possibility in condition (27) below.

## 2 Properties of *un quelconque*

French has two determiners that express ignorance about the referent, namely *quelque* in the singular and *un quelconque*. *Quelque* is felt to be formal and old fashioned in modern French, and has in effect been replaced by *un quelconque*. Accordingly, we will focus on the latter, but we will deal specifically with *quelque* at the end of the paper when we look at it in interaction with abstract mass nouns.

The second form, *un quelconque*, enters the two constructions *un N quelconque* and *un quelconque N*. We consider the second combination to be a variant of the first which has a ‘stronger’ value of indifference, in a sense to be made clear at the end of section 5. Therefore, we will focus mainly on *un N quelconque*. This phrase is fine in ‘modal’ contexts, that is to say in sentences expressing probability (3a,b), possibility (3c), obligation (3d), permission (3e), command/suggestion (3f), or in

---

2 Or, equivalently, in Farkas’ DRT–based approach, all the embedding functions relative to the commitment set of the speaker would return the same value for $x$.

3 We do not consider the plural form *quelques*, whose properties are quite different.
habitual sentences (3g).

(3) a. Marie a probablement loué une voiture quelconque
    'Mary probably rented some car'
b. Marie a dû louer une voiture quelconque
    'Mary must have rented some car’
c. Marie a pu louer une voiture quelconque
    'Mary was able to rent some car'
d. Marie doit louer une voiture quelconque
    'Mary has to rent some car’
e. Marie a le droit de louer une voiture quelconque
    'Mary is allowed to rent some car’
f. Loue une voiture quelconque
    'Rent some car’
g. Quand elle était en vacances, Marie louait habituellement une voiture quelconque
    'On holiday, Mary usually rented some car’

In episodic non-modal sentences, un N quelconque is appropriate when the sentence is compatible with the assumption that the speaker cannot identify the referent of un N quelconque. Sentence (4b) is anomalous, because it implies that the speaker is able to identify the referent under normal circumstances.

(4) a. Susanne a épousé un copain de fac quelconque, que je ne connais pas
    'Susan married some university friend, whom I don’t know’
b. Hier, j’ai rencontré un ami quelconque
    ‘I met some friend’

However, un N quelconque is not always appropriate with non-specific NPs either, see the mixed set of sentences in (5).

(5) a. Pour mon anniversaire, je voudrais une lampe de bureau quelconque
    'For my birthday, I would like some desk lamp’
b. Il me faut un livre quelconque sur les types récursifs
    'I need some book on recursive types’

Next, in generic sentences such as (6a), un N quelconque is not appropriate when it occurs as restriction of the generic operator, see the contrast between (6b) and (6c), where un N quelconque is in the nuclear scope.

4Here and in what follows examples are coupled with English paraphrases that convey the original meanings. We make no pretense to providing perfect translations.
(6)  
\begin{align*}
\text{a. } & \text{Un animal doit être soigneusement nourri} \\
& \text{`An animal must be fed with care'} \\
\text{b. } & \text{Un animal quelconque doit être soigneusement nourri} \\
& \text{`Any animal must be fed with care'} \\
\text{c. } & \text{Un chat doit avoir un jouet quelconque} \\
& \text{`A cat must have some toy'}
\end{align*}

Finally, \( \overline{\text{un N quelconque}} \) is appropriate in downward-entailing contexts where it can function as a minimiser/Negative Polarity Item, exactly as the indefinite \( \text{un} \) (a). We will leave aside this particular function, because its study would force us to discuss the diachronic evolution of \( \text{quelconque} \) and its interrelation with French indefinites.\(^5\) Moreover the sensitivity of \( \overline{\text{un N quelconque}} \) is perfectly compatible with the semantics presented here.

(7)  
\begin{align*}
\text{a. } & \text{Marie n'a pas rencontré un étudiant} \\
& \text{`Mary did not meet any student'} \\
\text{b. } & \text{Marie n'a pas rencontré un étudiant quelconque} \\
& \text{`Mary did not meet any student'}
\end{align*}

It has to be noted that like \( \text{un} \), and \( a \) in English, \( \overline{\text{un N quelconque}} \) may ‘escape’ the scope of negation in referential readings. In (8), for instance, the intended interpretation says that there is some particular code that Mary did not type in.

(8)  
\begin{align*}
\text{Marie n'a pas dû rentrer un code quelconque, ce qui a bloqué le système} \\
& \text{`There must be some code Mary failed to type in, which made the system freeze'}
\end{align*}

In sum, examples (3) and (4) suggest the following constraint on the distribution of \( \overline{\text{un N quelconque}} \).

(9)  
\textbf{Non-Identification} \quad \text{A sentence with } \overline{\text{un N quelconque}} \text{ is not felicitous when it implies that the speaker is able to identify the referent of } \overline{\text{un N quelconque}}.

But constraint (9) as it is does not account for (5) and (6), therefore it will have to be refined. The solution we will put forth in section 5 calls into play the Fregean colour of \( \text{un quelconque} \) in these two cases.

\(^5\)Diachronic data suggest that \( \text{quelconque} \) had a NPI profile in Old and Middle French. However the full distribution of \( \text{quelconque} \) through time remains to be investigated.
3 Properties of *un certain*

Certain forms three determiners in French, namely *un certain* N, *certain* N<sub>singular</sub>, and *certains* N<sub>plural</sub>. Assessing their interrelation, diachronically and semantically, is a complex task that exceeds the scope of this paper. We simply note that i) *certain* N<sub>singular</sub>, like *quelque*, is somewhat formal and old fashioned, and ii) data suggest that *certains* N is not just the plural of *un certain*. For instance, (10b) is less natural than (10a) in isolation. In what follows we focus on *un certain*.

(10)  
a. Certains collègues ont accepté de relire mon article  
   ‘Certain colleagues accepted to read over my paper’

b. #Un certain collègue a accepté de relire mon article  
   ‘A certain colleague accepted to read over my paper’.

3.1 Basic data

To some extent, *un certain* is the mirror image of *quelque*, as noted by Van de Velde (2000). This observation extends to *un N quelconque*. By and large, *un certain* is possible with episodic non-modal sentences, not always felicitous in modal sentences and possible with abstract nouns, see (11).

(11)  
a. J’ai rencontré un certain diplomate dont on m’avait parlé  
   ‘I met a certain diplomat whom I had heard of’

b. Jean a dû avoir #un certain problème  
   ‘John must have had a certain problem’

c. Jean a fait preuve d’une certaine intelligence  
   ‘John showed a certain amount of intelligence’

These and similar data suggest that *un certain* demands that the referent be already known, contrary to *un N quelconque* and *quelque*. This behaviour squares well with its compatibility with proper nouns, which have an intrinsic identification potential according to some analyses (Geurts, 1997), e.g. *un certain Jean* (a certain John).

However, calibrating this ‘previous acquaintance’ is not easy. It is not necessarily knowledge of the speaker, since (12a) does not imply that the speaker knows the diplomat, and the knowledge criterion does not apply to certain collocations, since it is not clear who knows the instant alluded to in (12b).

---

<sup>6</sup>The adjective *certain* (sure) is intuitively related to the determiners, like *quelconque* with respect to *un N quelconque* and *un quelconque N*. However, the sense of the determiners formed with *certain* cannot be described as involving the sense of the adjective in a simple compositional way.
In the next section, we consider two proposals in the literature for analysing *certain* in French and *a certain* in English.

### 3.2 Distinction and specificity

Gondret (1976) has contributed a classical reference on *certain* in French. This author has argued that *certain* must refer to a set whose members can be ‘distinguished’, i.e. they retain their individuality. For instance, Gondret explains the impossibility of (13) by pointing out that the kilometers which are referred to are not individualized.

(13) Il habite à *certains kilomètres*

‘He lives *certain kilometers from here’

Although the intuition is correct, his idea of distinction remains extremely vague as a criterion. Suppose, for instance, that indefinites are represented by means of choice functions, as proposed in many recent contributions on determination, see (Reinhart, 1992, 1997) for two seminal contributions. Let us consider the variant of (10b) that contains the standard indefinite *un*, as given in (14), and its possible representation in (14’), where \( f \) is a choice function variable.

(14) Un collègue a accepté de relire mon article

‘A colleague accepted to read over my paper’

(14’) \( f(\text{COLLEAGUE}) \) accepted to read over my paper

If *un certain collège* in (10b) involves ‘distinction’, the choice of the choice function that can be the value of \( f \) must be constrained in some way. Kratzer (1998) identifies the problem for *a certain*. Developing and modifying Hintikka’s (1986) analysis, based on scope, she proposes that i) *a certain* only has a specific interpretation and ii) the choice function for *a certain* has an additional argument which allows for the relativization of choice functions to individuals.

For instance, example (15) receives the representation in (15’). The value of \( f \) must be a function that, given an individual, i.e. a value for \( x \), and the set of dates \( \text{DATE} \), picks out a date. So, it is a relativized choice function.\(^7\)

\(^7\)Note that, technically, the fact that a choice function is relativized simply entails that it has a general form \( f(x, X) \), where \( x \) is the relativizer –an individual in the present case– and \( X \) the argument set.
Each husband had forgotten a certain date—his wife’s birthday (Hintikka’s example (3))

∀x(x is a husband ⇒ x had forgotten f(x, DATE))

The issue is how to determine the connection between the individual and f. According to Kratzer, the value of f is contextually determined. For (15), f must pick x’s wife birthday from DATE. Similarly, in a question like Is Richard dating a certain woman? (Kratzer’s example (11)), a likely anchor (the value of x) is the speaker and the choice function ‘picks out a woman that the speaker has in mind’ (Kratzer, 1998, 169). Kratzer’s proposal exploits the same intuition as Gondret’s, namely the idea that a certain is inherently specific and has, accordingly, to be relativized to some epistemic agent.

Whereas we agree on the claim that un certain and a certain are inherently specific, we think that there is an additional complication. In fact, Kratzer’s proposal creates a problem similar to that inherent in Gondret’s approach. It is not enough to say that the choice function is contextually determined. For instance, (10b) would be associated with the logical form in (10b’).

Following the spirit of Kratzer’s proposal, one might say that f picks out a colleague that the speaker has in mind. Now, the speaker certainly has in mind one of the colleagues who accepted to read over her paper. However, this is not the natural interpretation of (10b). One cannot just think of a colleague who gave help for a paper and utter (10b) felicitously. That is why the perception of the sentence is blurred for some speakers. The following dialogue provides evidence pointing in the same direction.

A – Qui a révisé ton article?
‘Who revised your paper?’
B1 – #Un certain collègue
‘A certain colleague’
B2 – Un collègue de ma connaissance
‘A colleague I am acquainted with’

Note, first, that B1’s answer may sound uncooperative. If un certain simply signalled that the speaker has a certain colleague in mind, the answer should be as neutral as with a standard indefinite (un) under the specific interpretation, which it isn’t. Second, the difference with B2’s answer—which precisely implies that B2 has a certain colleague in mind—would not be predicted. Third, Martin (2005) points out that un certain can be unnatural in face-to-face introduction situations.8

8We don’t use exactly the same example as Martin.
Certainly, the speaker identifies her colleague in (17), so the specificity requirement is satisfied. One might then argue that the choice of marking explicitly the specificity, by using *un certain* instead of a standard indefinite, is not relevant and thus is responsible for the artificial character of the sentence. This redundancy-based explanation is not compatible with the lack of contrast observed in (18), where (18a) and (18b) are intuitively different but they are equally acceptable. The indication that the colleague is well known by the speaker should create the same sort of alleged redundancy responsible for the marginality of (17).

The analysis we develop (i) capitalizes on Gondret’s and Kratzer’s idea of specificity but (ii) takes into account the mentioned differences. Since *un certain* marks specificity, and an indication of specificity can be provided by the context or by linguistic information—in particular by a modifier of the head noun—we assume that *un certain* signals that some source of specificity is active, *in addition* to the most obvious one (whether contextual and/or explicit). The emphasis on specificity that characterizes certain determiners signals that the targeted object has to be identified independently. Martin (2005) studies several such determiners, for which her observation can be replicated (19).

Generally speaking, the choice of a specificity-marking indefinite is strange if the circumstances make clear that a specific reading is intended, unless one wants to signal that there is some other source of identification. This in turn may correspond to two main communicative intentions:
(i) the speaker lets the addressee know that she or others have an extra-source of identification, which could be used to narrow down the range of possibilities. (ii) The speaker lets the addressee know that the additional source is salient for some reason, e.g. because the speaker has some particular train of thought associated with the individual referred to or because she wants to draw attention to the fact that she shares some knowledge about the referent with the addressee.

Let us come back to (17) and (19a). Here, the speaker introduces a colleague, say individual $a$, whom she has some circumstantial reasons to single out (identification 1). By highlighting specificity, the speaker communicates that there is some additional identification of $a$ (identification 2). Identification 2 cannot be attributed to the addressee, who presumably meets $a$ for the first time. Therefore it must be attributed to the speaker. But it is implausible that the use of *un certain* serves the speaker for one of the two communicative intentions just described. Since $a$ is present, there is no need for additional identification. Moreover, an attempt to communicate to the addressee that $a$ is epistemically ‘particular’ just for the speaker is not clearly motivated. What relevance could it possibly have to the ‘introducing people’ scenario, whose traditional goal is to get two people acquainted with each other? The only possibility is that the speaker wants to remind the addressee of the fact that they both share some information (identification 2) about $a$, without explicitly designating it. This last possibility is similar to the well-known ‘echo’ effect of *un certain* and its arch use (Strawson, 1950). E.g., for (20), we can imagine the following situation: B knows who phoned (this is identification 1). She also knows that A knows that person (this is identification 2) although A is unable to identify that person as the caller.

(20)  
A – C’était qui, qui m’a téléphoné?  
‘Who called me on the telephone?’  
B – Ah, Ah! Une certaine personne . . .  
‘Ah, ah! A certain person’

We conclude that Martin’s examples are the trace of a double identification mechanism and indeed we propose that *un certain* signals that there are two independent identifications, one is by the speaker and the other either again by the speaker but different or by another agent.\(^9\)

\(^9\)Not to mention the fact that it is potentially offensive to $a$, who may resent being conversationally fenced off.

\(^{10}\)At the moment, we see no reason to impose an ‘ignorance condition’, as proposed by Martin (2005). The ignorance flavour of *un certain* is related to the fact that (i) it is an indefinite and (ii) the two identifications it points to can be quite vague.
4 Identification

The notion of identification concerns the epistemic status of a cognitive agent with respect to a set of individuals. An agent $a$ identifies an individual $d \in D$ if and only if $a$ is able to discriminate between $d$ and the other members of $D$. Identification is usually associated with ‘descriptions’, a cover term for *aggregates* (Dekker, 1998), *individuation schemes* (Gerbrandy, 1998, 2000) and *counterparts*, see (Geach, 1967; Lewis, 1968; Zeevat, 1997) and more recent work (Aloni, 2000; Corsi, 2001).

A Description $\Delta$ is a bundle of properties. An individual $a$ is identified through $\Delta$ whenever it is the only individual which satisfies $\Delta$. Identification is essentially opposed to intentional identity in the sense of (Geach, 1967).

More formally, the basic notion is that of *type* in model theory, that is, a set of formulae which characterizes all the ($n$–tuples of) individuals which satisfy them. Following standard practice, we say that an expression $\phi$ is in the free variables $x_1 \ldots x_n$ if it contains at most the variables $x_1 \ldots x_n$ free. We note $\phi(x_1 \ldots x_n)$ an expression in the free variables $x_1 \ldots x_n$. Similarly, $\Phi(x_1 \ldots x_n)$ denotes a set of expressions in the free variables $x_1 \ldots x_n$. We adopt Hodges’ (1997) presentation and define a type as in (21).

\[
\text{Type} \quad \text{Let } T \text{ be a theory in the language } L. \text{ An } n\text{-type of } T \Phi(x_1 \ldots x_n) \text{ for } n \text{ finite is any subset of } T \text{ in the free variables } x_1 \ldots x_n. 
\]

For convenience, $\vec{x}$ abbreviates the sequence $x_1 \ldots x_n$. The denotation of an $n$–type w.r.t. some model $\mathcal{M} = (D_M, I_M)$\(^{11}\) is the set of sequences $\langle a_1, \ldots, a_n \rangle$ which satisfy the type.

\[
\text{Type denotation} \quad \text{The denotation of } \Phi(\vec{x}) \text{ w.r.t. } \mathcal{M} = (D_M, I_M), 
\[\Phi(\vec{x})\]_\mathcal{M} \text{ is the set } \{\langle a_1, \ldots, a_n \rangle \mid a_1 \ldots a_n \in D_M \& \mathcal{M} \models \Phi[\vec{x} \leftarrow \vec{a}]\}.
\]

Note that when $n = 0$, an $n$–type $\Phi$ is a set of closed formulae. $[\Phi]$ is then the set of finite sequences of elements of $D_M$ or the empty set.

\[
\text{An } n\text{-type } \Phi \text{ is } \text{proper } \text{iff (i) it is non–empty and (ii) } n > 0.
\]

Epistemic individuation amounts to identification through types in an epistemic setting, i.e. a situation where an agent contemplates several ‘alternatives’, or mutually incompatible models of a language. Let us assume, for simplicity, that i) we work in a ‘full’ language, i.e. each individual $a$ of the domain has a unique name $c_a$ in the language, and that ii) constant symbols $c_i$ are rigid, i.e. they receive a unique interpretation in the domain.

\(^{11}\)As usual, a model is a pair (domain, interpretation function).
An information state (i.s.) \( s \) is a triple \( s = (w_0, \mathcal{M}, D) \) such that \( D \) is a non-empty domain of individuals, \( w_0 \) (usually called the actual or current world) is a model over \( D \) and \( \mathcal{M} \) is a set of mutually incompatible models over \( D \). For any closed formula \( \phi \), an agent \( a \) knows that \( \phi \), in symbols \( w_0 \models K_a \phi \), iff \( \mathcal{M}_i \models \phi \) for every \( \mathcal{M}_i \in \mathcal{M} \).

An agent \( a \) knows that an entity \( d \) satisfies the proper \( n \)-type \( \Psi \) whenever \( d \) satisfies \( \Psi \) in every alternative model of the information state. \( a \) identifies this entity through the type whenever she knows that \( d \) is the only entity to satisfy the type. Generalizing over arbitrary finite sequences of entities, we have (25).

Identification \( a \) identifies the sequence \( \langle d_1 \ldots d_n \rangle \) through the proper \( n \)-type \( \Psi \) in \( s = (w_0, \mathcal{M}, D) \) iff

i) for every \( i \in \{1 \ldots n\} \) and every \( \mathcal{M} \in \mathcal{M} \), \( I_{\mathcal{M}}(c_i) = d_i \) and

ii) for every \( \phi(x_1 \ldots x_n) \in \Psi \) \( w_0 \models K_a \phi[\bar{x} \leftarrow \bar{c}] \) and \( w_0 \models K_a \neg \phi[\bar{x} \leftarrow \bar{c}'] \) for every \( \bar{c}' \neq \bar{c} \)

When \( \Psi \) is finite, we can use the following, more traditional, definition.

Existential identification \( a \) identifies an \( n \)-sequence of individuals through the proper \( n \)-type \( \Psi \) in \( s = (w_0, \mathcal{M}, D) \) iff \( w_0 \models \exists! x_1 \ldots \exists! x_n (K_a \land \Psi) \).

4.1 The epistemic value of un quelconque

How does this notion of identification help for un quelconque? Consider example (4b), repeated below. I might have met several friends, so the description \( \Delta = \lambda x. (x \text{ is a friend} \& \text{I met } x \text{ yesterday}) \) does not necessarily identify a single individual. However, using (4b) to let the hearer draw the same inferences than from the sentence ‘I met friend \( s \) yesterday’ would be communicatively misleading.

(4) b. Hier, j’ai rencontré un ami ??quelconque

‘Yesterday I met some (unknown) friend’

The sentence conversationally implicates either that I met only one friend or that I have a particular friend in mind. So, either \( \Delta \) uniquely identifies a friend or it must be supplemented with some (possibly complex) property that makes the identification possible for the speaker. This conflicts with the semantic profile of un quelconque, which requires that I do not identify the entities I am referring to, hence the anomaly in (4b).

The provisional formal counterpart of constraint (9) for un quelconque is provided in (27).

\[ \text{In virtue of rigidity, for any constant symbol } c_i \text{ and any two models } \mathcal{M}_1 = (D, I_{\mathcal{M}_1}) \text{ and } \mathcal{M}_2 = (D, I_{\mathcal{M}_2}), \text{ we have } I_{\mathcal{M}_1}(c_i) = I_{\mathcal{M}_2}(c_i). \]
A sentence with a tripartite structure $[\text{uQ}] [\text{N}] [P]$ uttered by an agent $a$ is not appropriate under an interpretation such that:

i) $a$ means $[\text{uQ}] [\text{N}] [P']$ with $P' = P \& C$ for some property $C$ and

ii) $a$ identifies an entity $d$ through the proper 1–type $\{\bar{N}(x) \& P(x) \& C(x)\}$ in her information state.

Note that, when $P$ and $\bar{N}$ are sufficient for the identification, $C$ can be conceived of as a trivial property ($\lambda x.x = x$ for instance) with no discriminatory power. The interpretation of the sentence as $[\text{uQ}] [\text{N}] [P']$ can be triggered by commonsense knowledge or by means of a conversational implicature.

Let us go back to the data presented in section 2. We account for examples (3) as follows. First, the logical form for the modal non–specific examples (3a–f) is (28), given an information state $s = (w_0, M, D)$, and a modal necessity or possibility operator $\Box$.

(28) $\Box [\exists x(x \text{ is a car } \& \text{Mary rented/rents } x)].$

The type is not necessarily rigid across the different models of the information space. Mary may have had the possibility, the permission, the obligation, etc., to rent any appropriate car, not a particular one. For (3g), adopting a standard quantificational view on the representation of habitual sentences (de Swart, 1991), we posit (3g') as its logical form.

(3) $g'. \text{hab}_{s} [\text{Mary is on vacations in } s \& s \text{ is past}] [\exists x (x \text{ is a car in } s \& \text{Mary rents } x \text{ in } s)]$

Second, the specific reading is the one that is preferred for (4a). The sentence means that Susanne married a particular university friend, but his identity is unknown to the speaker. In practice, this means that the proper 1–type $\{x \text{ is a university friend } \& \text{Susanne married } x\}$ is not satisfied by the same individual in every alternative of $M$.

Examples (5) and (6) require a more fine–grained treatment. We will turn to them after having considered the epistemic value of un certain.

4.2 The epistemic value of un certain

In (10b) and (16), the speaker communicates that i) she is able to identify her colleague, and ii) she knows of another identification by an epistemic agent, who is not necessarily the speaker herself. The second identification may be provided in the sentence, e.g. in (11a), or be covert, this is the case in (11b), (10b) and (16). In the latter case, it is up to the reader to reconstruct the reasons why the speaker signals the second identification, hence the variations in the perception of sentences recorded among speakers. Hintikka makes a convergent remark about proper names with a certain.
We word the constraint on *un certain* as in (29), leaving momentarily aside the case of abstract nouns. For simplicity, we stick to the ordinary conception of information state as sets of models.

(29) \[ \textbf{UC} \text{ Let } S \text{ be a sentence with a tripartite structure } [\text{UC}] \ [\hat{N}] \ [P], \text{ where } \hat{N} \text{ refers to a physical entity. It is appropriate only under an interpretation (i.s.) } s \text{ such that} \\
\text{i) the speaker identifies an entity through the proper 1–type } \{\hat{N}(x) \& P(x) \& C(x)\} \text{ in } s \text{ and} \\
\text{ii) for some agent } a, \text{i.s. } s' \text{ and proper 1–type } \Psi(x), \\
(a) \text{ the speaker knows that } a \text{ identifies an entity through } \Psi(x) \text{ in } s', \\
(b) \text{ the speaker knows that this entity is the same as that identified in } s \\
(c) a \neq \text{ speaker or } s \neq s'. \]

Definition (29) captures the fact that the two identifications are *independent* via subcondition (iic). Either the speaker has in mind an identification by another agent \((a \neq \text{ speaker})\), or she has in mind another identification \((s \neq s')\) by herself.

Let us go back to some data discussed in section 3.1 to see how constraint (29) applies. In (11a), the speaker identifies the diplomat as the person whom she met, and in (12a) as the person she heard of through John. In addition, she mentions respectively other persons and John as agents who know the diplomat independently. One could also argue that in (11a), the two identifications are by the speaker, one is through the event of meeting and the other is knowledge by hearsay.

(11) a. J’ai rencontré un certain diplomate dont on m’avait parlé  
‘I met a certain diplomat whom I had heard of’

(12) a. Jean a mentionné un certain diplomate  
‘John mentioned a certain diplomat’

In (30), if \(a\) is the speaker, then, at utterance time the speaker may identify the person in question as the person whom she met, and identify her independently as the person whom nobody knew at the party.

(30) J’ai rencontré une certaine personne qu’aucun invité ne connaissait (description of a party)  
‘I met a certain person whom none of my guests knew’

It has to be noted that identification, such as defined here, does not imply knowledge of the referent, even if we often say so for convenience. For instance, in a sentence such as (31), nothing forces the speaker to know the diplomat in hand.
I’ve heard about a certain diplomat who had troubles with the Inland Revenue.

Condition (29) requires only that the description that corresponds to the sentence should characterise an individual who is unique in the mind of the speaker. It is true that in (4a), which exhibits un quelconque, it is also referred to a unique individual, as Susanne is likely to have married one person only.

a. Susanne a épousé un copain de fac quelconque, que je ne connais pas
   ‘Susan married some university friend, whom I don’t know’

However, the difference between (31) and (4a) is that in the latter sentence the speaker does not signal that she is able to identify that person through the description provided by the sentence. In other words, in the information state of the speaker there may be more than one individual who satisfies the description. On the contrary, there is just one individual in example (31). Conditions (27) and (29) set apart un quelconque from un certain thanks to the identificational power of the descriptions and not through referential properties, that often are the same. This is consonant with the well–known fact that only reference entails uniqueness (see Dekker (1998) for an elaboration of this point).

Note also that identification is always relative to an epistemic state. Thus, it is possible for the same entity to be presented as identified and non–identified in two different states. For instance, in (12a), the individual is identified by the speaker as the diplomat John spoke about and a single individual corresponds to this description in the information state of the speaker. Instead, several individuals correspond to the description in (32).

b. Jean a mentionné un diplomate quelconque
   ‘John mentioned some diplomat or other’

Finally, it has to be pointed out that un certain is used to form expressions that do not have a clear connection with constraint (29), see (33) and also (12b) above.

a. Jean a tourné à un certain endroit
   ‘John turned at a certain place’

b. Il y a un lac à un certain endroit
   ‘There is a lake at a certain point’

c. Il a renoncé à combattre, d’une certaine manière
   ‘He abandoned the fight, somewhat’
In view of their frequency in corpora and their non sensitivity to modal contexts, these expressions may be taken to be collocations where the meaning of un certain has weakened. However, it is also possible to maintain that there are two identifications in these expressions too. One is by the speaker through the property of the sentence, e.g. the place where John turned in (33a). The other would correspond to the fact that these expressions describe spatio–temporal landmarks (places, moments, etc.), that are likely to be known independently from the events they host (place, moment), or to which they are associated (manners). For instance, (33b) implies that the lake is at a specific place that is identifiable independently from its presence. At the moment, we do not see reasons to favour one of the two hypotheses.

5 Non–identification and indifference

As we pointed out above, the marginality of examples (5a) and (6b) raises a more difficult problem for the characterisation of un quelconque, since it is not predicted by the analysis developed so far. The idea we defend in this section is that, in the case of epistemic determiners, there is a hierarchy of pieces of information sent to the hearer.

Consider un quelconque in a non–specific context like example (5a), repeated below. Suppose that this sentence is uttered in a situation where I have no precise idea of the kind of desk lamp I need. In this case, the speaker is unable to identify the lamp. So, why is un quelconque anomalous?

(5) a. Pour mon anniversaire, je voudrais une lampe de bureau quelconque
   ‘For my birthday, I would like some desk lamp’

   A similar point can be made with respect to progressive sentences. Modal/inferential approaches to the progressive, see (Dowty, 1979; Landman, 1992; Zucchi, 1999) among many others, assign the sentences in (34) interpretations where I may not have a very precise idea of the paper I am currently writing. Several different articles might result from my current activity, and yet, un quelconque is not felicitous.

(34) a. Je suis en train d’écrire un article
   ‘I am writing a paper’

   b. Je suis en train d’écrire un article quelconque
   ‘I am writing some paper or other’

   In fact, the property of un quelconque responsible for the marginal status of these sentences manifests itself more covertly in (4a), repeated below, where the speaker signals that she has no means to identify the person whom Susanne
married. Since the relative clause (‘whom I don’t know’) entails the same information, one may wonder whether *un N quelconque* really adds something to the meaning.

(4) a. Susanne a épousé un copain de fac quelconque, que je ne connais pas
   ‘Susan married some university friend, whom I don’t know’

Intuitively, (4a) conveys the impression that the speaker is unconcerned with Mary’s wedding. Van de Velde (2000) proposes that *quelque*—similar to *un N quelconque* in many respects as noted above—signals that the identity of the referent is irrelevant. This seems to be the case in (4a), which has a ‘I don’t care’ flavour. Farkas (2002a) and von Fintel (2000) mention similar possibilities for *some* and *whatever*. We term this ‘effect’ the indifference value of *un N quelconque*. This value is not automatically triggered by *un N quelconque*. In Gricean terms, it is cancellable. Indeed, it is cancelled in the sentences of (35), for instance, where the identity of the referent *is* relevant.

(35) a. Marie a dû être mise au courant du projet par un employé quelconque, et il faudrait savoir qui
   ‘Mary must have learnt about the project from some employee and we need to know who he is’

b. La victime a forcément entendu un bruit quelconque, mais je me demande bien quoi
   ‘Surely, the victim heard some noise, but I really wonder what’

We propose that the indifference value is a *generalized conversational implicature* in the sense of (Grice, 1975), because it is i) connected with the presence of a particular determiner (*un N quelconque*), and ii) cancellable. However, we have then to explain why the attempted cancellation fails in (36a), which sounds somewhat incoherent. As pointed out by (Geurts, 1999, 19–23) in particular, cancellation of implicatures is not analogous to the phenomenon of presupposition projection. For instance, in (36b), the existence of Susanne’s husband is suspended by the *si*–clause. Implicatures result from the contextual interpretation of a sentence as a whole and cannot be easily defeated by additional information.13

13More precisely, cancellation occurs only in such cases as the result of discourse revision, signalled, for instance, by special discourse markers like *in fact*, e.g. *John met some of the girls* conversationally implicates that John did not meet all the girls. One can cancel this implicature by adding *in fact he met all of them*. 
These variations suggest that *un quelconque* has a more complex profile than what captured by (27). Characterisation (27) is like an *antiligensing* condition stating that *un quelconque* is not licensed in environments where the preferred interpretation violates non–identification. The more detailed characterisation presented in (37), states clearly that *un quelconque* communicates two implicatures. For clarity, we split the literal meaning of a sentence with *un quelconque* into two parts, the first concerning the truth–conditional aspect, the second expressing the conventional implicature.

(37) UQ A sentence with a tripartite structure $[\text{uq}] [\text{N}] [\text{P}]$ 

i) expresses an assertion, a command, etc.\(^{14}\) that $\exists x (\text{N}(x) \& \text{P}(x))$ (truth–conditional contribution of the determiner or literal meaning I); 

ii) conventionally implicates (literal meaning II) that the speaker does not interpret the sentence as meaning $[\text{uq}] [\text{N}] [\text{P} \& \text{C}]$ and identifies an entity through the proper 1–type $\{\text{N}(x) \& \text{P}(x) \& \text{C}(x)\}$ in $s$, 

iii) communicates, as a generalized conversational implicature, the idea that the speaker is unconcerned with the identity of the entity satisfying the proper 1–type $\{\text{N}(x) \& \text{P}(x)\}$ in $s$.

In purely Fregean terms, one would consider that only the part I of the literal meaning corresponds to a thought (i.e. a sense that impinges on the truth–conditional evaluation). So the literal meaning II and the conversational implicature represent colour (*Färbung*) indications. However in approaches where conventional implicatures have a genuine truth–conditional status, e.g. (Potts, 2003), this is more debatable. We will not try to compare the two positions here.

As with every generalized conversational implicature, when the context makes it clear that the literal meaning alone is the preferred interpretive option, the generalized conversational implicature can be suspended. There is much debate as to how to deal with conversational implicatures properly, see (Sperber and Wilson, 1986; Levinson, 2000). We cannot expound here the differences between the leading approaches. We follow recent work in formal pragmatics, which tries to merge insights from relevance theory and optimality theory in assuming that cancellation of a generalized implicature is only relevant when the literal meaning with which the implicature is associated is independently motivated, see (Aloni, 2001; van Rooy, 2003). In more precise terms, in a context $C$, given an item with

\(^{14}\)This depends on the illocutionary force of the sentence, a point we ignore since it is tangential to our concerns.
literal meaning $m$ and conversationally implicated meaning $ci$, the cancellation of $ci$ is natural only when there is no other candidate item whose interpretation in $C$ entails $m$ and does not give rise to implicature cancellation. In the case of *un quelconque*, this amounts to saying in practice that cancellation of the indifference value is only natural when non–identification by the speaker cannot be conveyed by other indefinites that would not give rise to implicature cancellation.

Under this assumption, characterisation (37) accounts for the variability observed in (5) and (35). In (5a), the speaker is unconcerned with the identity of the lamp, but this clashes with the indication ‘for my birthday’, which implicates that she expects or hopes to like it. The implicature is then cancelled, but the literal meaning could be conveyed by a simple indefinite like *un*, whose default interpretation in (38) is non–specific and that does not trigger any indifference implicature, a couple of properties that make it a better candidate.

(38) Pour mon anniversaire, je voudrais une lampe de bureau ‘For my birthday, I would like a desk lamp’

In (5b), repeated below, the speaker might be unconcerned with the identity of the book as long as it contains standard material on recursive types, so the implicature does not create any extra interpretive strain.

(5) b. Il me faut un livre quelconque sur les types récursifs ‘I need some book on recursive types’

Last, in (35), the speaker stresses the fact that she was only able to derive an incomplete conclusion, and that a crucial piece of information is missing, which defeats the conversational implicature.

The second case left to deal with is that of a generic sentence like (6b), repeated below. Its logical form is (6b’), assuming a *GEN* operator of the type described in (Carlson and Pelletier, 1995).

(6) b. Un animal quelconque doit être soigneusement nourri ‘Some animal must be fed with care’

b’. GEN$_s$ [[UQ$_x$] [x is a cat] [x exists in s]] [one must feed x with care in s]

The logical form in (6b’) says that, in any situation $s$ that pertains to the evaluation of the generic sentence, when there are ‘some’ cats in $s$, they must be fed with care. This logical form does not violate constraint (27), since it is possible for the speaker to be unaware of which cats exist in the relevant situations. Contrary to the case of non–specific contexts, the indifference value seems to be of no direct avail here. The generalized conversational implicature is clearly inappropriate since the speaker does not have to be concerned or unconcerned with
the identity of cats in possible situations. The literal meaning does not offer an escape hatch either, because generic quantification via GEN involves unawareness about individual referents. It is unlikely that the speaker wants to emphasize this unawareness independently, through the use of un N quelconque. Note that this is a general property of generic sentences. Since they conventionally implicate that the speaker is not referring to any specific entity, the literal meaning (conventional implicature) of un N quelconque cannot be used to redeem the combination of un N quelconque with genericity. This means that, in such cases, we have to find some motivation for the generalized conversational implicature of un N quelconque.

As expected, generic sentences can host un N quelconque when the implicature can be perceived as adding relevant information. This is typically the case in possibility sentences like the following ones.

(39) a. On peut se réincarner en un animal quelconque
   ‘One can be reincarnated as any animal’
   b. Avec ce nouveau logiciel, on peut scanner un texte quelconque\footnote{un N quelconque can also specify the subject: Avec ce nouveau logiciel, un texte (quelconque) peut être scanné (With this new software, a text (any text) can be scanned). Some speakers accept even the emphatic form Un texte QUELCONQUE peut être scanné (ANY text can be scanned), without any restrictive adjunct.} 
   ‘With this new software, one can scan any text’

The variant of (39a) without un N quelconque provided in (40) does not imply that any animal is an admissible host for reincarnation. By using un N quelconque, the speaker indicates in (39a) that she is indifferent to which animal is considered.

(40) On peut se réincarner en un animal
   ‘One can be reincarnated as an animal’

There are (at least) two ways in which this indifference can be interpreted. First, as in the previous case, the indifference may be affective, i.e. the speaker is simply unconcerned, but this is an implausible situation for (39). The sentence does not concern any particular individual, such as the speaker or a person related to her; so, why would the speaker want to express emotional indifference in the first place? Compare (39) with (41), where the speaker indicates that she is indeed indifferent to her reincarnation.

(41) J’accepte de me réincarner en un animal quelconque
   ‘I accept to be reincarnated as any animal’
A more natural interpretation for (39a) is that the speaker is unconcerned about the mention of any particular animal, since the sentence is intended as referring to all the animals. The intuitive reading is then ‘one can be reincarnated as an animal, no matter which animal we consider’. In such cases, un quelconque signals that it carries the same meaning as a free choice item like n’importe quel or any (Jayez and Tovena, to appear).

One might object that this free choice reading should apply to generics like (6b) as well. A widening/strengthening effect à la (Kadmon and Landman, 1993) might be able to produce the reading ‘absolutely every animal must be fed with care’. But, clearly, this is not the case.

(6)

b. Un animal quelconque doit être soigneusement nourri
‘Any animal must be fed with care’

To see why, we have to take into account the peculiar semantic structure of generics with indefinite singular subjects (IS–generics). Greenberg (2002) has recently proposed that IS–generics assert a connection between properties in virtue of a linking property. For instance, (6a) expresses a connection between the property of being an animal and the property of being fed with care in virtue of a third property, presumably that of being sensitive to the quality of food.

(6)

a. Un animal doit être soigneusement nourri
‘An animal must be fed with care’

Following Greenberg\(^{16}\), (6a) would be represented as (6a’), where \(w\) is the world of evaluation.

(6)

a’. \((\exists \mathcal{P} \forall w’ \text{(IF every animal satisfies } \mathcal{P} \text{ in } w’ \text{ and } \mathcal{P}) \text{ is associated with the property of being an animal THEN every entity that is an animal in } w’ \text{ must be fed with care in every contextually relevant situation)}\)^{17}

A property is typically associated with the restriction in virtue of epistemic, deontic, legal, or stereotypical knowledge.\(^{18}\) The idea behind Greenberg’s analysis is that there is a mediating property \(\mathcal{P}\) between the restriction and the scope of the IS–generic judgement. Obviously, this does not entail that every entity denoted by the subject of the generic sentence possesses the mediating property, since this property is simply associated, not entailed.

---

\(^{16}\)We ignore the relation between worlds \((w, w’)\) and situations \(s\) for simplicity.

\(^{17}\)Concretely, the contextually relevant situations in this example are all those where the question of how to feed a given animal arises.

\(^{18}\)A property non–typically associated with the restriction might serve as a linking property if it is salient in the utterance context. In any case, a linking property enjoys a sort of privileged connection with the restriction either due to cultural/cognitive factors or to contextual parameters.
We assume that, when in subject position inside a generic sentence, *un *\( \bar{N} *\) quelconque is subject to the semantics constraints affecting IS–generic sentences. So, there must be a property associated with the property denoted by \( \bar{N} \). This clashes with the epistemic interpretation of the indifference value, which hints at the irrelevance of choice at the level of the \( \bar{N} \) property. Choice cannot be quite irrelevant since, for the IS–generic to be felicitous, we have to consider subsets of \( \bar{N} \) that satisfy the associated property. Genuine free choice items like *n’importe quel* do not contribute IS–generic structures and, as a result, do not give rise to a similar tension. Example (42) suggests that absolutely every animal must be fed with care, even those that do not satisfy properties typically associated with the property of being an animal (widening).

(42) \[ N’importe quel animal doit être nourri avec soin \]

‘Any animal must be fed with care’

Generic *when* or *if*–clauses such as in (43) demonstrate the relevance of the generalized conversational implicature of *un \( \bar{N} *\) quelconque. The scope property, i.e. the obligation of feeding with care, is not predicated directly of animals but of animals in particular situations or of individual-situation pairs. The logical form of (43) is (43’). As the generic operator bears on situations, (43’) leaves open the possibility that the type of the animal is not just any type, in the situations considered for evaluating the generic. By implying that this is indeed the case, *un \( \bar{N} *\) quelconque* retains a certain informativity, in the epistemic scenario.

(43) \[ Quand/Si on a un animal quelconque, il faut le nourrir avec soin \]

‘When/If one has some animal, one must feed it with care’

(43’) \[ \text{[GEN}_s\text{]} [one has an animal in } s\text{] [one must feed it with care in } s\text{] \]

Summarizing, we have proposed that the indifference value of *un \( \bar{N} *\) quelconque* is a generalized conversational implicature, motivated by (at least) two different scenarios which interact in certain ways with various semantic structures. Note that, if one follows von Fintel (2000, def. 21), the indifference value of *whatever* is nearer to free choiceness than to the lack of concern suggested by *un \( \bar{N} *\) quelconque*. We will not pursue the comparison here, however.

There is a further twist in the story. Something has to be added to account for the contrast between (44a) and (44b), which suggests that *un \( \bar{N} *\) quelconque* is intrinsically derogatory or indiscriminative—like *just any* (Horn, 2000)—and conflicting with laudatory terms like *génie* (genius).

(44) a. \[ Pour résoudre ce problème il faudrait un génie (\( ^{??}\) quelconque) \]

‘To solve this problem we need a genius (some genius)’

b. \[ Un imbécile (quelconque) a dû laisser la lumière allumée \]

‘An (Some) idiot must have left the light on’
Sentence (44a) is paralleled by *He is not just any genius*, but this is not the case for examples such as (45).

(45) Si tu as un problème quelconque avec ta machine, appelle-moi
‘If you have any problem with your computer, call me’

Thus, instead of associating a derogatory value with *un N quelconque*, we propose a constraint on the N the determiner combines with. The semantic category of the N must not presuppose that the denoted entities have particular abilities or (positive or negative) qualities. This step corresponds in part to Lyon’s idea (Lyons, 1977) that in pairs like *small vs big*, only the latter adjective refers to an actual property. Big things ‘have bigness’, they don’t ‘lack smallness’. Small things don’t ‘have smallness’, they ‘lack bigness’. The distinction between *imbécile* and *génie* in (44) would match the fact that one does not need any special ability to be an idiot. Similar contrasts exist for *petit* (small) vs *grand* (big) or *laid* (ugly) vs *beau* (beautiful).

In sum, the constraint we put on *un N quelconque* is that the N must not denote a class of entities which are unfrequent or exceptional in any respect. Since this is not a cancellable aspect of the determiner, we consider it as a conventional implicature in its core meaning. The presence of this negative (antilicensing) condition accounts for the fact that *un N quelconque* and the adjective *quelconque* are only partly similar. *Quelconque* as an adjective is derogatory and denotes things which are nondescript, e.g. *des vêtements quelconques* (nondescript clothes), *Je suis un cuisinier quelconque* (I am a poor cook). So, it is not felicitous in contexts where, clearly, the denoted entity can be any entity in the class, see (46).

(46) Si tu as un problème quelconque, délicat ou pas, appelle-moi
‘If you have a routine problem, tricky or not, call me’

6 The problem of perspectives

Up to this point, we have been assuming that the speaker is the only epistemic agent. But this is not always the case. For instance (47a) may be perceived as odd because, in its preferred interpretation, the event is presented under the perspective of an agent who is not the speaker and who is supposed to know which car she sees. This perspective is probably made more salient or imposed to the attention as unique by the *passé simple* (simple past), which stresses the distance from utterance time (Vetters, 1996, 155).
(47)  a. Marie se pencha par la fenêtre et aperçut une voiture quelconque, que je ne pouvais pas voir
   ‘Mary leant out of the window and saw some car, which I couldn’t see’

   b. Marie se pencha par la fenêtre et dut voir une voiture quelconque, dont j’entendis le moteur
   ‘Mary leant out of the window and probably saw some car, of which I heard the engine’

Perspectives, i.e. viewpoints, focal points, etc., are well–known in literary studies, see (Booth, 1983; Genette, 1983; Achard-Bayle, 2001) among many others. Formally, they are usually represented by means of epistemic logics (Hintikka, 1962; Fagin et al., 1995; Gerbrandy, 1998). The standard translation of the epistemic situation in (47a) is as in (47a’), where $K$ is a knowledge operator and $s$ is the speaker.

(47)  a’. $K_s \exists! x (K_{Mary} [x \text{ is a car & Mary saw } x])$

The formula in (47a’) is true at $w$ if and only if $\exists! x (K_{Mary} [x \text{ is a car & Mary saw } x])$ is true at every world $w'$ $K_s$–accessible from $w$. This entails, in turn, that for each such $w'$, there is a unique individual, say $a_{w'}$, that satisfies the proper $1$–type $(x \text{ is a car & Mary saw } x)$ in $\mathbb{M} = \{ w'' : w'' \text{ is } K_{Mary} \text{–accessible from } w' \}$. As expected, the speaker $s$ does not know which car Mary saw. Adopting the perspective of Mary means to consider any set of worlds $K_{Mary}$–accessible from some $w'$. Formulating a hierarchical notion of perspective, which supports unconstrained chains of agents, requires a more powerful tool than the standard accessibility ‘triangle’ (a current world and all its accessible worlds). Accordingly, we define perspectives as localizations in possibilities in the sense of Gerbrandy (1998).

(48) Let $\mathcal{L}$ be a (full) language and $\mathcal{A}$ a finite set of agents. A possibility over $\mathcal{L}$ and $\mathcal{A}$ is a function $\pi$ such that:
   1. $\pi(\mathcal{L})$ is a model of $\mathcal{L}$, and
   2. $\pi(a)$, for every $a \in \mathcal{A}$ is a set of possibilities.$^{20}$

   Sets of possibilities are noted $\sigma$, $\sigma_1$, etc. Truth is defined as expected.

(49)  **Truth in possibilities** Let $\pi$ a possibility and $\phi$ a formula.
   1. If $\phi$ is atomic, $\pi \models \phi$ iff $\pi(\mathcal{L}) \models \phi$.

$^{19}$In this section, we assume for simplicity that we work on a constant domain of individuals $D$. So, all the worlds have access to the same individuals.

$^{20}$Sets of possibilities are called information states in the theory. We refrain from using this term to avoid confusing sets of possibilities with what we called ‘information states’ above.
2. If $\phi = \phi_1 \lor \phi_2$, $\pi \models \phi$ iff $\pi \models \phi_1$ or $\pi \models \phi_2$.
3. If $\phi = \exists x \psi$, $\pi \models \phi$ iff $\pi \models [x \leftarrow c_i]$ for some $c_i$.
4. If $\phi = \neg \psi$, $\pi \models \phi$ iff $\pi \not\models \psi$.
5. If $\phi = K_a \psi$, $\pi \models \phi$ iff $\pi' \models \psi$ for every $\pi' \in \pi(a)$.

In the simple model adopted here, a perspective is just a set of sets of possibilities in the tree associated with a possibility. For instance, the perspective assigned to Mary by the speaker $s$ is the set of sets of possibilities Mary–accessible from each $a$–accessible possibility, i.e. the set $\{ \sigma : \pi_i(Mary) = \sigma \text{ for some } \pi_i \in \pi(s) \}$. To define perspectives, we need the auxiliary notion of information path, i.e. a sequence of agents.

Let $\pi$ be a possibility. An information path (i.p.) in $\pi$ is any finite sequence of the form $\langle x_1, \pi_1, x_2, \pi_2, \ldots, x_n, \sigma \rangle$ such that the $x_i$'s are in $A$, $\pi_1 \in \pi(x_1)$, for each $x_i$ ($1 < i < n$): $\pi_i \in \pi_{i-1}(x_i)$ and $\sigma = \pi_{n-1}(x_n)$.

For a given sequence of agents $\langle x_1 \ldots x_n \rangle$, the perspective at this sequence is the set of sets of possibilities that form the endpoints of all the information paths that exemplify this sequence.

Let $\omega = \langle x_1 \ldots x_n \rangle$ be a finite sequence of agents. The perspective at $\omega$ is the set of sets of possibilities defined by:
$\{ \sigma_i : \text{there is an information path of the form } \langle x_1, \pi_1 \ldots x_n, \sigma_i \rangle \text{ in the total possibility } \pi \}$.

The next step is to redefine identification for possibilities and perspectives. We need to modify slightly the definition of identification for sets of possibilities first.\footnote{This is due to the fact that, in possibilities, we have no current or actual world in the traditional sense. For finite possibilities (= finite modal) trees, the difference is only notational.}

Identification in possibilities  Let $\sigma = \pi(a)$. $a$ identifies the sequence $\langle d_1 \ldots d_n \rangle$ through the proper $n$-type $\Psi$ in $\sigma$ iff
i) for every $i \in \{1 \ldots n\}$ and every $\pi' \in \sigma$, $I_{L(\Psi)}(c_i) = d_i$ and
ii) for every $\phi(x_1 \ldots x_n) \in \Psi$, $\pi \models K_a \phi[\vec{x} \leftarrow \vec{c}]$ and $\pi \models K_a \neg \phi[\vec{x} \leftarrow \vec{c}']$ for every $\vec{c}' \neq \vec{c}$

Identification under perspectives  Let $\omega = \langle x_1 \ldots a \rangle$ be a sequence of agents and $\Pi$ the perspective at $\omega$. $a$ identifies the entities through the proper $n$-type $\Psi$ under $\Pi$ iff $a$ identifies entities through the type in each member of $\Pi$.\footnote{This is due to the fact that, in possibilities, we have no current or actual world in the traditional sense. For finite possibilities (= finite modal) trees, the difference is only notational.}
Definition (53) amounts to saying that, no matter which set of possibilities is considered at the endpoint of a given information path, the agent knows which entities satisfy the type when her information corresponds to this set of possibilities. In this type of representation, adopting the perspective ‘of’ an agent consists in evaluating a sentence at the perspective which describes the way in which a sequence of agents sees the information that this agent has. For instance, adopting the perspective of Mary in (47) is not seeing the world ‘as Mary sees it’ but rather as the speaker believes that Mary sees it. The relevant perspective is then the perspective at \( \langle s, \text{Mary} \rangle \). More generally, we can replace the notion of information state as a set of models by that of perspectives at a sequence of agents. Definition (27.ii) must then be slightly modified, as in (54).

\[(54) \quad \textbf{UQ} \quad \text{A sentence with a tripartite structure } [uq] [\bar{N}] [P] \text{ is appropriate only under a perspective } \Pi \text{ at } \omega \text{ such that the last agent of } \omega \text{ does identify any entities through the proper 1-type } \{\bar{N}(x) \& P(x) \& C(x)\} \text{ under } \Pi.\]

7 The problem(s) of abstract nouns

In this section, we look at differences linked with the varying nature of the nouns with which epistemic determiners can combine. More precisely, we address the problems raised by the combination of \textit{quelque} and \textit{un certain} with abstract nouns such as \textit{tristesse} (sadness), \textit{étonnement} (surprise) or \textit{temps} (time).

Since \textit{un N quelconque} exhibits no special behaviour\(^{22}\), insofar as it requires non–identification as usual, cf. (55), we will leave it aside in the remainder. On the contrary, \textit{quelque} waives its demand for a context ensuring non–identification with qualities, see (56), and \textit{un certain} no longer presupposes identification, see (57).

\[(55) \quad \text{a. J'ai éprouvé un étonnement quelconque devant ce spectacle} \]
\[\quad \text{‘I felt some surprise at this scene’} \]
\[\quad \text{b. Jean a bien dû éprouver un étonnement quelconque devant ce spectacle} \]
\[\quad \text{‘Still, John must have felt some surprise at this scene’} \]

\[(56) \quad \text{J'ai éprouvé quelque étonnement devant ce spectacle} \]
\[\quad \text{‘I felt some surprise at this scene’} \]

\[(57) \quad \text{a. Jean a dû éprouver un certain étonnement devant ce spectacle} \]
\[\quad \text{‘John must have felt some surprise at this scene’} \]
\[\quad \text{b. La séparation des particules prend un certain temps, dont personne n'a aucune idée} \]
\[\quad \text{‘Particle splitting takes some time, about which nobody has any idea’} \]

\(^{22}\)Its indifference value may have certain effects, though.
We address the problem of the semantic contribution of *un certain* with abstract nouns first and then that of the variations of *quelque* with the same nouns.

### 7.1 *Un certain* and abstract nouns

Traditionally, the denotational domain of mass nouns contains no individuals. Discontinuity is brought in by the combination with *un certain*, but its mode depends on the type of the N (Tovena, 2001). Occurrences of *un certain* with expressions such as *même* (even) and *en tout cas* (anyway/at least) work as a test to tease apart two modes. Roughly speaking, a pair of sentences of the form $P, (et) même P'$ ($P, (and) even P'$) signals that $P'$ is a stronger reason to believe some proposition $p$ than $P$, see (Anscombe, 1973), (Kay, 1997, chap. 2). For instance, in (58a), the possibility that John is a genius is a reason to believe that John might solve a very complex problem that normally even an intelligent person would not be able to solve. The *en tous cas* test, shown in (58b), is symmetric. The configuration $P, en tout cas P'$ ($P, at least P'$) signals that $P'$ is weaker than $P$ (Jayez and Rossari, 1999).

\begin{enumerate}
\item \textit{Jean est intelligent, peut-être même génial}
  \textit{‘John is intelligent; he might even be a genius’}
\item \textit{Jean est génial, en tout cas très intelligent}
  \textit{‘John is a genius, very intelligent anyway’}
\end{enumerate}

Let us consider quantity–denoting nouns. The set of sentences in (59) instantiates the two tests. *Un certain* appears to suggest that the quantity is noticeable. For instance, (59b) is strange because the speaker signals in the first sentence that the process in question takes a noticeable time, in the second sentence that it takes time and that the proposition denoted by the second sentence is stronger than the proposition denoted by the first.

\begin{enumerate}
\item \textit{Ça prend du temps, et même un certain temps}
  \textit{‘It takes time, in fact it will take quite a while’}
\item \textit{Ça prend un certain temps, et même ??du temps}
  \textit{‘It takes quite a while, it even takes time’}
\item \textit{Ça prend du temps, en tout cas #un certain temps}
  \textit{‘It takes time, anyway it takes quite a while’}
\item \textit{Ça prend un certain temps, en tout cas ??du temps}
  \textit{‘It takes quite a while, it takes time anyway’}
\end{enumerate}

Let us now consider quality–denoting nouns. The set of sentences in (60) instantiates the two tests again, and shows that *un certain* suggests that the type of the quality (viz. surprise) is determined. Intuitively, (60a) is odd because
the second clause signals that the speaker felt a certain type of surprise. Using un certain or a certain to relativize the truth of a sentence to a type is generally perceived as a form of downplaying because it implies that other types do not satisfy the property expressed by the sentence, see (60e).

(60)  

    a. J’ai éprouvé de la surprise, et même une certaine surprise
       ‘I was surprised, I was even surprised in some way’
    b. J’ai éprouvé une certaine surprise, et même de la suprise
       ‘I was surprised in some way, in fact I was surprised’
    c. J’ai éprouvé de la surprise, en tout cas une certaine surprise
       ‘I was surprised, at least in some way’
    d. J’ai éprouvé une certaine surprise, en tous cas de la surprise
       ‘I was surprised in some way, I was suprised anyway’
    e. This program solves equations, even / at least equations of a
certain type

Following Bosveld-de Smet (1998), we assume that the existential pronoun du / de la (some, lit. ‘of the’) signals an overlap relation between two entities. We assign to the determiner du the form in (61a) which says that any object that satisfies the generalized quantifier and every total amount of the substance of type P must overlap. So, du temps refers to any object which is a part of (the total amount of) time. For mass nouns, we assign (61b) to un certain. It says that any object that satisfies the generalized quantifier must be a type or amount of P possibly identified by some agent. The preferred mode of identification for quantities is by degree/amount (P − amount), whereas identification by type (P − type) is the preferred way for qualitites.

(61)  

    a. duexist = λP, Q. ∃x(P(x) & Q(x) & ∀y(total−amount P(y)
                   ⇒ overlap(x, y))).
    b. uncertainmass =
       λP, Q. ∃x(∃a(a knows which x)) & P−type / P−amount(x) & Q(x)).

Then, the contribution of un certain boils down to saying that the overlap corresponds to a determinate amount/type of P, i.e. an amount/type that an agent might identify. For instance, for (59a) and (60c), we get the following readings: ‘It takes time, one can even say it takes a noticeable amount of time’ and ‘I felt surprise, a certain type of surprise at least’.

23For simplicity, we ignore the special treatment that Bosveld-de Smet proposes for specifier–determiner pairs and recast her analysis into the standard format for determiners.
7.2 *Quelque* and abstract nouns

Our approach provides a solution also to the unexpected contrasts in (62), where all nouns are compatible with *un certain* but abstract mass nouns that mention physical dispositions or qualities of objects, situations or behaviours, appear not to be compatible with *quelque*, unlike nouns denoting psychological states, as seen above in (56).

(62)  

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Le jeu de ce pianiste souffre de quelque lenteur</td>
<td>‘The playing of this pianist suffers from some (occasional) slowness’</td>
</tr>
<tr>
<td>b.</td>
<td>Le jeu de ce pianiste souffre d’une certaine lenteur</td>
<td>‘The playing of this pianist suffers from a certain slowness’</td>
</tr>
<tr>
<td>c.</td>
<td>Le paysage que je voyais par la fenêtre recelait quelque beauté</td>
<td>‘The landscape I was looking at through the window had some beauty in it’</td>
</tr>
<tr>
<td>d.</td>
<td>Le paysage que je voyais à travers la fenêtre recelait une certaine beauté</td>
<td>‘The landscape I was looking at through the window had a certain beauty’</td>
</tr>
</tbody>
</table>

NPs in (62) are akin to *tropes* (Campbell, 1990; Macdonald, 1998), i.e. particular manifestations of abstract properties. Elaborating on Tovena’s (2003) proposal that complements of *quelque* denote entities that lack individuality, we divide tropes into external and original ones. Both are individuals, as shown by their incompatibility with standard indefinites, cf. (63).

(63)  

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>??An intelligence of John</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>??A color of my car</td>
<td></td>
</tr>
</tbody>
</table>

However, while external tropes are directly observed, original tropes are the reconstructed causes of external manifestations. They are manifestations of some quality whose exact nature may be abduced in several possible ways, and this is how they make room for indetermination. In French, many original tropes are *noms de sentiment*, see Anscombe (1995) among others, like *amour* (love), *frayeur* (fear), *exaspération* (exasperation), *dédain* (contempt), *agacement* (irritation), *satisfaction* (satisfaction), *désespoir* (despair), *confiance* (confidence), *jalousie* (jealousy), etc., which are compatible with *quelque* and *un certain*. For instance, *Jean a montré quelque impatience* (John showed some impatience) means that John had a certain (public) behaviour which points to ‘some’ (indeterminate) impatience. In contrast, nouns like *lenteur* (slowness), *beauté* (beauty), *souplesse* (litheness), *élégance* (elegance), etc. are better with *un certain*. Additional evidence that nouns for external tropes denote observable behaviour comes from the fact that these nouns are not felicitous as complements of *suggérer* (to suggest), in contrast with nouns for original tropes.
a. *Ce que je vois suggère beaucoup de frayeur*
   ‘What I see suggests much fear’

b. *Ce que je vois suggère beaucoup d’élégance* [intended sense: physical elegance]
   ‘What I see suggests much elegance’

8 Conclusion

We have presented a set of epistemic determiners that exploit the possibility/impossibility of identifying the referent of the NP they contribute to forming. Two main findings emerged from this investigation. First, the epistemic sensitivity of the items cannot be reduced to ‘knowledge of the speaker’. In addition to the complication introduced by perspectives, there is the fact that *un certain* invokes a scenario structure of ‘previous acquaintance’ which may involve several agents. Second, the link between ignorance and indifference and the combination with abstract nouns show that the basic epistemic value is an element of a more complex network of constraints. The behaviour of the semantically cognate FCI with respect to ‘indiscriminativity’, see (Horn, 2000) for *just any* and (Jayez and Toven, to appear) for *n’importe quel*, indicates that the epistemic profile, the scales of relevance and importance and the type of the head noun interact in various ways and that the relation between determiners and (un)certainty is multidimensional.

References


