Intentionality as the Mark of the Dispositional

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Summary

Martin and Pfeifer (1986) have claimed
"that the most typical characterizations of intentionality
... all fail to distinguish ... mental states from ...
dispositional physical states."
The evidence they present in support of this thesis is examined in the light of the possibility that what it shows is that intentionality is the mark, not of the mental, but of the dispositional. Of the five marks of intentionality they discuss a critical examination shows that three of them, Brentano's (1874) *inexistence* of the intentional object, Searle's (1983) *directedness* and Anscombe's (1965) *indeterminacy*, are features which distinguish T-intenTional/dispositional states, both mental and non-mental (physical), from non-dispositional "categorical" states. The other two are either, as in the case of Chisholm's (1957) *permissible falsity* of a propositional attitude ascription, a feature of linguistic utterances too restricted in its scope to be of interest, or, as in the case of Frege's (1892) *indirect reference* / Quine's (1953) *referential opacity*, evidence that the S-intenSional locution is a quotation either of what someone *has said* in the past or *might be expected to say*, if the question were to arise at some time in the future.

1. Introduction

In an article entitled "Intentionality and the Non-Psychological", C.B. Martin and K. Pfeifer (1986) have argued

> "that the most typical characterizations of intentionality ... all fail to distinguish intentional mental states from non-intentional dispositional physical states." (Martin and Pfeifer, *op. cit.* p. 531)

In stating the thesis in the way they do, Martin and Pfeifer follow Brentano (1874/1995) in assuming that whatever else it is, intentionality is that which distinguishes the mental from the non-mental or 'physical'. But if, as they claim, all the "typical characterizations of intentionality" apply to purely

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physical dispositions, we are forced to conclude that the "typical characteriza-
tions" are mistaken and that the essence of intentionality and hence, of the
mental must be looked for elsewhere.

There is, however, another way of construing the matter. If you accept
their thesis, but believe that 'intentionality' is a technical term whose meaning
is fixed by the criteria which philosophers have proposed for its use, you will
conclude that it was Brentano who got it wrong and that intentionality is the
mark, not of the mental, but of the dispositional.

But the choice between these two ways of interpreting Martin and
Pfeifer's thesis confronts us only on the assumption that they are right and that
physical dispositions do indeed satisfy all the traditionally accepted marks of
internationality. But do they?

2. *Martin and Pfeifer's five marks of intentionality*

In support of their claim Martin and Pfeifer distinguish five marks of in-
tentionality culled from the writings of philosophers such as Chisholm (1957;
1967), Anscombe (1965), Lycan (1969) and Searle (1979a; 1979b; 1983).
With the sole exception of their fifth mark, which they introduce with a quota-
tion from Elizabeth Anscombe's (1965) 'The intentionality of sensations,'[1]
Martin and Pfeifer give no provenance, no name or description and provide
no definition for the marks of intentionality they distinguish. Instead the rely
on two sets of examples, one set illustrating the application of each mark to a
psychological expression, the other illustrating the application of each mark
to a non-psychological expression. From the way these examples are con-
structed it is clear what definition they are using for each mark, and from a
knowledge of the literature, it is possible to identify its source.

Mark 1.   Chisholm's (1957, p. 170) first definition of intentionality, a lin-
           guistic reinterpretation of Brentano's (1874/1973) concept of the
           "inexistence" of the object towards which an intentional state is di-
           rected.
Mark 2.   Chisholm's (1957, pp. 170-1) second definition of intentionality in
           which a statement is intentional if it contains an embedded declar-
           ative sentence in indirect reported speech which need not be true
           when the sentence as a whole is true.
Mark 3.   Chisholm's (1957, p. 171) third definition of intentionality in
           which a statement is intentional if it contains a singular term which
           in Frege's (1892/1960) terminology "indirectly refers" to an ob-

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[1] *op. cit.*, p. 161.

ject or in Quine's (1953/1961) terminology is "referentially opaque" in that the principle of the substitutivity of extensionally equivalent expressions *salva veritate* is suspended.

Mark 4.   The directedness of an intentional state towards its object, that part of Brentano's definition which disappears when it is re-interpreted by Chisholm in linguistic terms (Mark 1 above) and which is revived and made central to the definition of intentionality by Searle (1979a; 1979b; 1983).

Mark 5.   Anscombe's (1965) "indeterminacy" of the object towards which an intentional state is directed.

3. Five landmarks in the history of the concept of intentionality

(i) 1874 Brentano's "Intentional Inexistence"
In order to understand where they come from, the five marks need to be set in the context of the history of the concept of intentionality which, as far as recent philosophical discussion is concerned, begins with Brentano's thesis that

> "Every mental phenomenon is characterized by what the Scholastics of the Middle Ages called the intentional (or mental) inexistence of an object, and what we might call, though not wholly unambiguously, reference to a content, direction toward an object (which is not to be understood here as meaning a thing), or immanent objectivity . . ." This intentional inexistence is characteristic exclusively of mental phenomena. No physical phenomenon exhibits anything like it." (Brentano, 1874/1995, pp. 88–89)

This is the source both of the idea that intentionality is what distinguishes the mental from the non-mental or 'physical' and of the first of Martin and Pfeifer's five marks of intentionality. However, an examination of the examples of it they construct shows that the definition they are implicitly following is the first of three definitions of intentionality proposed by Chisholm in his 1957 book *Perceiving.* According to this definition

> "a simple declarative sentence is intentional if it uses a substantival expression – a name or a description – in such a way that neither the sentence nor its contradictory implies either that there is or that ther isn't anything to which the substantival expression truly applies." (Chisholm 1957, p. 170)

(ii) 1892 Frege's "Indirect Reference"

The second landmark in the history of intentionality, as it was subsequently to develop, was Frege's (1892/1960) concept of "indirect reference". Frege introduces this concept in the course of developing the distinction he draws between the sense (*Sinn*) and reference (*Bedeutung*) of a linguistic expression. Reference in Frege's sense, is a relation between an expression (Frege is concerned here primarily with singular terms such as proper names and definite descriptions) and some actually existing object to which it directs the listener's or reader's attention. Sense, on the other hand, is a matter of the criteria that have to be satisfied in order for an object to be and be identified as the referent of the expression. Every meaningful expression has a sense. Only some succeed in referring to an actually existing object.

Two expressions of different sense (Frege cites the expressions 'Morning Star' and 'Evening Star') may have the same referent (in this case the planet Venus). In such a case Leibniz's Law applies. Any predicate that is true of the common referent under one description is true of it under the other. However, this principle breaks down in cases of reported speech, both directly reported speech (*oration recta*) and indirectly reported speech (*oratio obliqua*). This is because in the case of directly reported speech the substitution of one expression referring to an object by another expression referring to the same object will misrepresent what was actually said. In the case of indirectly reported speech it will misrepresent the sense of what said or would be said *unless* the expression that is substituted has the same *sense*, as well as the same reference, as the expression that was or would be used by the individual whose speech is being reported. In either case this failure of substitutivity *salva veritate* is what Frege calls "indirect reference". Others have used different terms for the same linguistic phenomenon. Geach (1962) calls it "non-Shakespearianity."[2] Quine (1953/1961) calls it "referential opacity." In recent years Quine's term has become the one most commonly used by philosophers and I shall follow this usage in the remainder of this paper.

As in the case of their first mark of intentionality derived from Brentano's concept of intentional inexistence, Martin and Pfeifer use Chisholm's (1957) definition of what we are now calling referential opacity in constructing examples of their third mark of intentionality. Chisholm's definition reads as follows.

> "Suppose there are two names or descriptions which designate the same things and that E is a sentence obtained merely by separating

2 A reference to "that which we call a rose, By any other name would smell as sweet", *Romeo and Juliet,* Act 2, Scene 2.

these two or descriptions by means of "is identical with" (or "are identical with" if the first word is plural). Suppose also that A is a sentence using one of those names or descriptions and that B is like A except that, where A uses the one, B uses the other. Let us say that A is intentional if the conjunction of A and E does not imply B." (Chisholm, 1957, p. 171)

(iii) 1957 Chisholm's linguistification of intentionality

The third landmark in the history of intentionality is the publication in 1957 of Chisholm's book *Perceiving*. Chisholm's objective in the chapter of that book (Chapter 11) which is devoted to the topic of "Intentional Inexistence", is to present Brentano's doctrine in a form which would make sense to philosophers in the linguistic or analytic tradition which had come to dominate philosophy in the English-speaking world in the period immediately following the end of World War II. In so doing, he presented intentionality not, as it had been for Brentano, as a property of mental *phenomena*, but as a property of common sense psychological *language*. It is this that inspires his three definitions of intentionality (Chisholm 1957, pp. 170-173) which are the basis for the first of Martin and Pfeifer's five marks. Of these the first which has been quoted above is a straightforward re-writing of Brentano's inexistence-of-the-intentional-object criterion expressed as a feature of psychological language rather than of psychological phenomena.

The effect of this re-writing is that a sentence is intentional if it contains an apparently referring expression in Frege's sense which does not have to refer in that sense, i.e. no such actual object need exist, for the sentence to be true. However, because of a peculiarity of Frege's analysis whereby declarative sentences are said to refer, not as one might expect to the event or state of affairs they describe, but to their truth value, this way of providing a linguistic version of Brentano's doctrine applies only to those sentences in which a psychological verb, such as *want* or *think about*, takes a singular term, i.e. a name or description, whether definite or indefinite, as its grammatical object. This has the effect of excluding sentences containing members of that important family of psychological verbs which take as their grammatical object an embedded sentence in *oratio obliqua* or indirect reported speech. Of particular importance for Chisholm are those in which the embedded sentence is a declarative introduced by the pronoun *that*, those which in current philosophical vocabulary are said to ascribe a *propositional attitude* to the subject of the sentence as a whole. In order to accommodate this important group of sentences, of which a sentence of the form 'X believes that p' is the paradigm case, Chisholm de-

velops his second definition of intentionality which, instead of requiring that the grammatical object of the verb be a name or description which need have no actually existing referent, admits the case where the grammatical object is an embedded declarative sentence which need not to be true. This gives us Chisholm's second definition of intentionality (Martin and Pfeifer's Mark 2) which, as stated by Chisholm, reads as follows:

> "let us say, of any noncompound sentence which contains a proposi-
> tional clause, that it is intentional provided that neither the sentence
> nor its contradictory implies either that the propositional clause is true
> or that it is false." (Chisholm, 1957, pp. 170-1)

Having extended his linguistic version of Brentano's intentional inexist-ence criterion in this way so as to cover verbs taking embedded declarative sentences in indirect reported speech as their grammatical object, Chisholm is struck by the resemblance between this second definition of intentionality and Frege's concept of "indirect reference" (Quine's "referential opacity") and in-corporates it into his linguistified version of the concept of intentionality in the form of his third definition of intentionality (Martin and Pfeifer's Mark 3) as quoted above. He needs this further definition because of a problem that arises in the case of those mental events and mental ascriptions which are in-troduced by verbs of cognitive achievement such as "'know', 'see', 'perceive' and the like" (Chisholm 1957, p. 171) which fall outside the scope of his first two definitions because in cases where what is known, seen or perceived is an object, the object must exist and where it is a proposition, the proposition must be true.

It would appear from this that Chisholm's three definitions are not in-tended to be alternative ways of characterising the same concept. They appear to be three distinct concepts each covering a different group of intentional sentences which cumulatively, but not individually, serve to mark off psycho-logical from non-psychological sentences. But there is a problem for this way of interpreting what Chisholm is doing here. It is true that his first two defini-tions pick out two distinct non-overlapping classes of psychological sentences and that the third covers a class of psychological sentences which are covered by neither of the other two. However, provided they are restricted to the beha-viour of linguistically competent humans, it turns out that the only psycho-logical sentences which are not referentially opaque are ones containing verbs such as 'watch', 'look at' and 'listen to' which are not intentional by *any* crite-rion that has so far been suggested. When this fact is combined with the obser-vation reported below that referential opacity (Chisholm's and Martin Pfeifer's third mark of intentionality) is the only one of Martin and Pfeifer's

five marks where their thesis fails, where no plausible non-psychological example can be constructed, it might seem that we can dispense with all the other marks of intentionality and rely exclusively on referential opacity to mark off the psychological from the non-psychological.

There are two problems with this strategy. The first is that the referential opacity criterion leaves a small number of what would generally be accepted as psychological sentences outside its scope, sentences describing the psychological dispositions of pre-linguistic organisms (animals and human infants) and sentences containing verbs such as 'watch', 'look at' and 'listen to'. The second problem is that, were it not for Chisholm's attempt to present intentionality as a feature of psychological language, rather than, as it was for Brentano, a feature of psychological phenomena, no one would have thought of connecting the purely linguistic and logical phenomenon of referential opacity with intentionality in the first place.

The multiplication of different definitions of intentionality with the consequent confusion concerning their scope is not the only consequence of Chisholm's linguistification of the concept. Another consequence is that an important feature of Brentano's definition, namely the *directedness* of an intentional state towards the inexistent intentional object is omitted. In the light of subsequent developments to be described in section 3 (v) below this feature of Brentano's doctrine has since been rehabilitated by Searle (1979a; 1979b; 1983) and made the focus of his non-linguistic definition of intentionality:

> "Intentionality is that property of many mental states and events by which they are directed at or about or of objects and states of affairs in the world." (Searle, 1983, p. 1)

This definition provides Martin and Pfeifer with their fourth mark of intentionality.

(iv) 1965 Anscombe's 'The Intentionality of Sensation'

We have already seen that Martin and Pfeifer's fifth mark of intentionality is the only one of the five whose provenance they mention and that it comes from Elizabeth Anscombe's (1965) paper 'The intentionality of sensation'. Anscombe's view of intentionality lies midway between Brentano's psychological and Chisholm's linguistic interpretation. On the one hand, she treats it as a feature of mental states such as intending to do something and mental events such as thinking about something. On the other hand she treats it as something essentially linguistic in that it is a matter of "the description under which" something is intended or thought about. Not only does she agree with

Chisholm in treating intentionality as a linguistic phenomenon, even if she is less concerned than he is with the problem of separating psychological from non-psychological language, she also follows his example in offering *three* "features", as she calls them, of intentionality in place of Brentano's single definition. Her first criterion, though she does not acknowledge its source, is Frege's "indirect reference", Quine's "referential opacity" and Chisholm's and Martin and Pfeifer's third mark of intentionality. Her third criterion whereby

> "descriptions under which you intend to do what you do may not come true, as when you make a slip of the tongue or pen" (Anscombe, 1965, p. 159)

is evidently intended to cover both Brentano's case (Chisholm's and Martin and Pfeifer's first mark) where the intentional object need not exist and Chisholm and Martin and Pfeifer's second mark where it is an embedded sentence that need not be true.

It is her second criterion which is unique to her and which gives Martin and Pfeifer their fifth mark of intentionality. She states it as follows:

> "the descriptions under which you intend what you do can be vague, indeterminate. (You mean to put the book down on the table all right, and you do so, but you do not mean to put it down anywhere in particular on the table – though you do put it down somewhere in particular.)" (Anscombe, 1965, p. 159)

(v) 1968 Kneale's 'Intensionality and Intentionality' distinction

In a seminal paper presented at the 1968 Joint Session of the Aristotelian Society and Mind Association the late William Kneale attempted to undo the linguistification which the concept of intentionality had undergone at the hands of Chisholm, by drawing a distinction between "intensionality" spelt with an 's' after the second 'n' and "intentionality" spelt with a 't' after the second 'n'. Because I shall be making extensive use of this distinction in what follows and because the two nouns and the adjectives from which they are derived are pronounced identically, I propose to distinguish them by speaking of 'S-intenSionality' and the 'S-intenSional' and 'T-intenTionality' and the 'T-intenTional' respectively. The difference between them, apart from their very different histories,[3] is that S-intenSionality is a property of locutions or

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[3] T-intenTionality was derived by Brentano from the *intentio* of the medieval schoolmen who used it to mean a mental, as opposed to a verbal or linguistic representation of an object or state of affairs. S-intenSionality derives from the distinction drawn by the seventeenth century Port Royal logicians (Arnauld and Nicole 1662) between the *comprehension* and the *extension*

linguistic expressions, whereas T-intenTionality is a property of some pro-
cesses, events and especially states. The way this distinction works can be il-
lustrated by their application to the concepts of S-intenSional and T-inten-
Tional object. By an S-intenSional object or 'context' is meant the grammati-
cal object of some verb which satisfies the criteria which distinguish S-inten-
Sional contexts from non-S-intenSional or extensional ones. By a T-inten-
Tional object is meant that towards or onto which a T-intenTional state is di-
rected. The connection between the two would seem to be that the linguistic
expressions which characterise the T-intenTional object towards which T-in-
tenTional states are directed, are in most cases the S-intenSional grammatical
objects of S-intenSional verbs.

It is his adoption of this distinction which leads Searle to revive Bren-
tano's definition of a T-intenTional state as one which is directed towards a
T-intenTional object in the passage quoted above, which, as we have seen, is
the immediate source of Martin and Pfeifer's fourth mark of intentionality.
They follow Chisholm and Anscombe in spelling intentionality with a 't'
throughout, except when discussing Searle's position, although the definitions
that are implicit in the examples they construct are formulated in terms of lin-
guistic expressions and are to that extent examples of S-intenSional locutions
used to characerise T-intenTional states.

4. Martin and Pfeifer's psychological and non-psychological examples of their five marks

We have seen that Martin and Pfeifer are claiming that the five marks of
intentionality which they have culled in the way described from the literature
of the subject "fail to distinguish . . . mental states from . . . dispositional physi-
cal states." We have also seen that the evidence they adduce in support of that
proposition consists in two parallel sets of examples illustrating the applica-
tion of each of the five marks of intentionality they distinguish (a) to a mental
state and (b) to a physical disposition. These two sets of examples are listed
alongside the mark of intentionality to which they relate and the definition of
that mark on which Martin and Pfeifer are implicitly relying in constructing
them on Table 1.

of a general term. This distinction exactly parallels that drawn later by Frege between the sense
(*Sinn*) and reference (*Bedeutung*) of a singular term. The replacement of the Port Royal term
'comprehension' by the term 'intension' which has been used by philosophers ever since when
drawing this distinction is due to Sir William Hamilton (1860).

5. Testing Martin and Pfeifer's theses against other examples

We have already seen that the evidence which Martin and Pfeifer present in support of their thesis and which is summarised on Table 1 can be interpreted in two different ways. It can be interpreted in the way that Martin and Pfeifer interpret it as showing that none of their five marks of intentionality enable us to differentiate mental dispositions from non-mental or 'physical' ones. Since they take intentionality to be that which differentiates the mental from the non-mental, this means that for their whatever the five marks are

Table I. – Martin and Pfeifer's Case for the Intentionality of Physical Dispositions

Martin and Pfeifer's Mark	Martin and Pfeifer's Implicit Definition	Martin and Pfeifer's Psychological Example	Martin and Pfeifer's Non-Psychological Example
Mark 1 – Brentano's "in-existence" of the T-intenTional object	Neither ascribing nor re-fusing to ascribe to some-thing a T-intenTional state implies the existence of the object towards which a T-intenTional state is di-rected.	Neither *I want* nor *I do not want a spaceship* im-plies. *There is* or *There is not a spaceship.*	Neither *Object* A *is* nor *Object* A *is not capable of being affected in way* W *by a free-falling body of characteristics* C *implies There is* or *There is not a free-falling body.*
Mark 2 – Chisholm's per-missible falsity of an em-bedded declarative sen-tence	Where an embedded dec-larative sentence is used to ascribe a T-intenTional state to someone or some-thing neither the assertion nor the denial of that as-cription implies either the truth or the falsity of that proposition.	Neither *I hope* nor *I do not hope that will rain to-morrow* implies the truth or falsity of *It will rain to-morrow.*	Neither *Physical appara-tus* A *is* nor *Physical ap-paratus* A *is not capable of affecting the clouds so that it will rain tomorrow* implies the truth or falsity of *It will rain tomorrow.*
Mark 3 – Frege's "indirect reference", Quine's "ref-erential opacity" within an S-intenSional context	Although one substantival expression designates the same object as another substantival expression, the truth of the resulting sentence is not preserved if the one substantival ex-pression is substituted for the other within an S-in-tenSional ("opaque") context.	Although the substantival expression *Pat* designates the same object as the substantival expression *Mike*, it does not follow from the truth of *Tom be-lieves that Pat denounced Mary* that *Tom believes that Mike denounced Mary.*	Although the substantival expression *The only pink object* O *at location* L designates the same object as the substantival ex-pression *The only object* M *of mass* f *at* L, it does not follow from the truth of *Acid* A *was able to turn litmus paper* P *into the only pink object* O *at lo-cation* L that *Acid* A *was able to turn litmus paper* P *into the only object* M *of mass* f *at location* L.

Martin and Pfeifer's Mark	Martin and Pfeifer's Implicit Definition	Martin and Pfeifer's Psychological Example	Martin and Pfeifer's Non-Psychological Example
Mark 4 — Searle's directedness of a T-intenTional state towards a T-intenTional object	The T-intenTional state which is ascribed to something needs to be characterized in terms of that (which may or may not be present or exist) to(wards the actualization or non-actualization of) which the T-intenTional state is directed.	The mental state attributed to the subject in *Jake fears lions* needs to be characterized in terms of that (which may or may not present or exist) to(wards the non-actualization of) which the mental state is directed (i.e. lions).	The physical disposition attributed to the subject in *X is soluble in aqua regia* needs to be characterized in terms of that (which may or may not be present or exist) to(wards the actualization of) which the disposition is directed (i.e., immersion in aqua regia).
Mark 5 — Anscombe's indeterminacy of the T-intenTional object	The event or state of affairs which constitutes the object towards which the T-intenTional state is orientated or directed is indeterminate in ways in which no actual event or state of affairs is indeterminate.	If I am thinking of a particular existing man, that man must be of a particular height. From that it does not follow that when I think of that man I am thinking of him as a man of a particular height.	If substance X is soluble in a particular existing solution of aqua regia Y, that particular solution of aqua regia must be located at a particular place. From that it does not follow that substance X is soluble in a solution of aqua regia at that or any other particular place.

marks of, it is not intentionality. My own interpretation assumes that 'intentionality' means whatever the criteria proposed by philosophers for distinguishing the intentional from the non-intentional makes it mean. If that means that there are as many different concepts of intentionality as there are criteria or 'marks' of intentionality, so be it. From this perspective what is of interest is the suggestion that intentionality, as defined by some or all of Martin and Pfeifer's five marks, is the mark, not of the mental, but of the dispositional.

In attempting to evaluate the evidence presented on Table 1 from this latter perspective, I became dissatisfied

(a)   with the contrived nature of the examples, particularly those intended to illustrate the application of the different marks of intentionality to the case of physical dispositions, and that different examples are used in each case, and

(b)   Martin and Pfeifer's failure, despite discussing the distinction on pp. 537-8 and 546-7 of their paper in connection with the use that Searle makes of it, to consider whether the five marks of intentionality they list are intended to distinguish T-intenTional states from non-T-

intenTional or 'purely categorical'[4] states in which case they are marks of T-intenTionality, or S-intenSional sentences from non-S-intenSional or 'extensional' sentences in which case they are marks of S-intenSionality.

That Martin and Pfeifer should be indifferent to both these issues is understandable. From their perspective, to be able to produce one case, however contrived, of a physical disposition which satisfies a proposed criterion of intentionality is enough to show that it does not allow us to distinguish mental dispositions from 'physical' ones. Likewise, since their concern is with establishing this negative thesis, they are not interested in establishing any positive thesis as to what types of state or locution the various alleged criteria of intentionality do in fact pick out. From the alternative perspective, on the other hand, it goes without saying that such issues are vital.

In addressing the issue concerning the examples Martin and Pfeifer present in support of their thesis, it seemed to me that what was needed was to test each of the five proposed marks of intentionality against the same pair of examples throughout, one an example of a mental disposition, the other an example of a 'physical' disposition. Moreover, in place of Martin and Pfeifer's more contrived examples it seemed better to use ones which are both more commonplace and more representative of mental and 'physical' dispositions in general. Accordingly the sentence (the S-intenSional context characterising the T-intenTional object in **bold**):

(a1)   Joe wants **an apple**,

was selected as the example of a mental disposition alongside Ryle's (1949) favourite example of a 'physical' disposition

(b1)   The pane of glass is **brittle**.

In order to bring out more clearly the parallel between these two sentences, we may rewrite them slightly as follows:

(a2)   Joe wants **to eat an apple**,

and

(b2)   The pane of glass is liable **to break**.

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[4] By 'a purely categorical state' is meant a state which contains no element of projection towards a possible future state. The sentence *The cat is on the mat* describes a purely categorical state in this sense. *The cats is hungry* describes a T-intenTional state which, though categorical in so far as it describes a currently existing state of the cat, nevertheless projects towards a possible future state whereby the cat is fed. Professor C.B. Martin to whom I am indebted for this point uses the term "qualitative" to describe states which I am here calling "purely categorical." See his Chapter 5 in Armstrong, Martin and Place (trs./1996).

Rewriting the sentences in this way makes it clear that in both cases the subject term is occupied by what Aristotle calls a substance ($οὐσία$), Joe in the first case and the pane of glass in the second case, an S-inenSional predicate, in the form of the verb *wants* in the first case and in the form of the subjunctive auxiliary *is liable* in the second case, and in the S-intenSional context an infinitive connoting an event, *to eat an apple* in the first case and *to break* in the second case.

Substituting an event for an object in the psychological example has important consequences for the way two of Martin and Pfeifer's marks of intentionality (Marks 1 and 4) are formulated. For so long as the T-intenTional object which is characterized by an S-intenSional context is construed as a substance, such as an apple, we can interpret the 'inexistence' of the object (Martin and Pfeifer's Mark 1) and the object towards which the potential is directed (Martin and Pfeifer's Mark 3) as something which may exist, but need not do so. But, if the T-intenTional object is an event, such as Joe's eating an apple, the object is now something which positively does not yet exist and may never do so. For if it had already occurred, there would be no point wanting it to do so. This reconstrual of the T-intenTional object as an event requires a re-statement of Martin and Pfeifer's implicit definitions of the relevant marks of intentionality (Marks 1 and 4) as shown on Table I. These changes appear in column 2 of Table II, together with (in column 3) the five variations of the psychological example *Joe wants to eat an apple* and (in column 4) the five (or four as it turns out) variations of the non-psychological example *The pane of glass is liable to break*, as applied to each of Martin and Pfeifer's five marks of intentionality.

6. *Separating the marks of T-intenTionality from thos of S-intenSionality*

Perhaps the most important result to emerge from the test of Martin and Pfeifer's thesis against the same pair of examples throughout, as presented on Table II, appears when Kneale's distinction between S-intenSional locutions and T-intenTional states is applied to the five so-called "marks of intentionality" which the examples on both tables are designed to illustrate. For if it is the case, as our account of the history of the concept suggests it is, that some of the five marks are criteria which distinguish S-intenSional locutions from extensional locutions, while others serve to distinguish T-intenTional states from what we may call 'purely categorical states', the thesis that intentionality is the mark, not of the mental, but of the dispositional becomes two distinct theses:

Table II. – Testing the Case for the Intentionality of Physical Dispositions against other Examples

Martin and Pfeifer's Mark	Martin and Pfeifer's Implicit Definition	UTP's Psychological Example – Joe wants an apple	UTP's Non-Psychological Example – The pane of glass is liable to break
Mark 1 – Brentano's "in-existence" of the T-inten-Tional object	Neither ascribing nor re-fusing to ascribe to some-thing a T-intenTional state implies the occurrence of the event or existence of the state affairs towards the coming about of which a T-intenTional state is directed.	Neither *Joe wants* nor *Joe does not want to eat an apple* implies *Joe will* or *Joe will not actually eat an apple.*	Neither *The pane of glass is* nor *The pane of glass is not liable to break* implies *The pane of glass will* or *The pane of glass will not actually break.*
Mark 2 – Chisholm's per-missible falsity of an em-bedded declarative sen-tence	Where an embedded dec-larative sentence is used to ascribe a T-intenTional state to someone or some-thing neither the assertion nor the denial of that as-cription implies either the truth or the falsity of that proposition.	Neither *Joe wants* nor *Joe does not want it to be true that he eats an apple* im-plies the truth or falsity of *Joe eats an apple.*	Neither *It is liable to be true* nor *It is liable to be false that the pane of glass breaks* implies the truth or falsity *The pane of glass breaks.*
Mark 3 – Frege's "indirect reference", Quine's "ref-erential opacity" within an S-intenSional context	Although one substantival expression designates the same object as another substantival expression, the truth of the resulting sentence is not preserved if the one substantival ex-pression is substituted for the other within an S-in-tenSional ("opaque") context.	Although the substantival expression *The apple Jane picked* designates the same object as the sub-stantival expression *The red apple on the left*, it does not follow from the truth of *Joe wants to eat the red apple on the left* that *Joe wants to eat the apple Jane picked.*	[No acceptable version of the example can be con-structed]
Mark 4 – Searle's direc-tedness of a T-intenTional state towards a T-inten-Tional object	The T-intenTional state which is ascribed to some-thing needs to be charac-terized in terms of that (which may or may not be present or exist) to(wards the actualization or non-actualization of) which the T-intenTional state is directed.	The mental state at-tributed to the subject in *Joe wants to eat an apple* needs to be characterized in terms of the event (which may or may not occur) to(wards the ac-tualization of) which the mental state is directed (i.e., Joe's eating an apple).	The physical disposition attributed to the subject in *The pane of glass is liable to break* needs to be char-acterized in terms of the event (which may or may not occur) to(wards the actualization of) which the disposition is directed (i.e., the pane's breaking).
Mark 5 – Anscombe's in-determinacy of the T-in-tenTional object	The event or state of af-fairs which constitutes the object towards which the T-intenTional state is orientated or directed is indeterminate in ways in which no actual event or state of affairs is indeter-minate.	If Joe eats an apple, that apple must be of a par-ticular size and colour. From that it does not fol-low that, if Joe wants to eat an apple, he wants to eat an apple of a particu-lar size or colour.	If the pane of glass is liable to break, its actual breaking must occur at a particular time and place and into a particular num-ber and shape of frag-ments. From that it does not follow that it is liable to break at any particular time or place or into any particular number of frag-ments.

(a)   the thesis that physical as well as mental dispositions are T-intenTional
        states by the relevant traditional criteria, and
(b)   the thesis that dispositional predicates and sentences in which such
        predicates occur are S-intenSional, whether the predicate in question is
        psychological or non-psychological.

When Martin and Pfeifer's five marks are sorted as between those that are
marks of an S-intenSional locution and those that are marks of a T-inten-
Tional state, provided we abandon Chisholm's linguistified version of Bren-
tano's "intentional inexistence" criterion (Martin and Pfeifer's Mark 1) and
revert to his original formulation of it, we find that only two of them are marks
of S-intenSional locutions. These are

Mark 2   Chisholm's permissible falsity of an embedded declarative sen-
             tence, and
Mark 3   Frege's "indirect reference"/Quine's "referential opacity."

The remaining three are all distinguishing marks of a T-intenTional state:
Mark 1   Brentano's permissible (required if the object is an event) non-
             existence of the T-intenTional object,
Mark 4   Searle's directedness of the T-intenTional state towards a T-inten-
             Tional object, and
Mark 5   Anscombe's indeterminacy of the T-intenTional object.

Moreover when they are sorted in this way, three things appear

(1)   that the three marks of a T-intenTional state are all aspects of a single
        principle, the principle whereby a T-intenTional state is directed (Mark
        4) towards the coming about of a state of affairs which not only need not,
        but does not yet exist (mark 1), and whose precise form will remain in-
        determinate (Mark 5) until it does which it may never do,
(2)   that every disposition, whether mental or 'physical', is a T-intenTional
        state by this criterion, as is every T-intenTional state a disposition, and
(3)   that no such obvious connection with dispositional predicates applies in
        the case of the two marks (Mark 2 and Mark 3) which on this analysis
        pick out S-intenSional sentences.

    The reason why there is this intimate and conceptually necessary connec-
tion between dispositions and T-intenTional states is that a disposition is a
state whereby the entity (substance), whose dispositional property it is, is
orientated towards the coming about of a possible future state which does not
now exist and may never do so, but which, if it does exist and thus becomes
determinate, will constitute a manifestation of that disposition.

7. Confirmation of Martin and Pfeifer's thesis in the case of T-intenTionality (Marks 1, 4 and 5)

The evidence of what happens when Martin and Pfeifer's five marks of intentionality are evaluated against the same set of examples throughout, which is presented on Tabel II, provides strong confirmation for the hypothesis that emerges from an attempt to separate those of five marks which are marks of an S-intenSional sentence from those that are marks of a T-intenTional state. As we have seen, that attempt leads somewhat inexorably to the conclusion that Marks 1,4 and 5 are marks of a T-intenTional state, while Marks 2 and 3 are marks of an S-intenSional sentence. It also suggests that while T-inten-Tionality as defined by Marks 1, 4 and 5 is, as predicted, the mark of the dispositional, whether the disposition be mental or 'physical', no such connection is apparent between disposition-ascribing sentences and S-intenSionality as defined either by Mark 2 or by Mark 3. This hypothesis is confirmed by the fact, demonstrated by Table II, that no problem is encountered when applying Marks 1, 4 and 5 to our two sample sentences, one describing a mental disposition (*Joe wants to eat an apple*), the other describing a 'physical' disposition (*The pane of glass is liable to break*). On the other hand, problems arise immediately we try to apply Marks 2 and 3 to this same pair of examples.

8. Difficulties for Martin and Pfeifer's thesis in relation to Marks 2 and 3 and their significance

In the case of Mark 2, in order to bring both sentences within the scope of Chisholm's second definition of intentionality, we are forced to reconstruct the S-intenSional context used to characterise the T-intenTional object (*to eat an apple* in the mental case, *to break* in the 'physical' case) so that it becomes an embedded declarative sentence that is taken to be true (*that he eats an apple* in the mental case, *that it breaks* in the 'physical' case). Not only are the resulting sentences (*Joe wants it to be true that he eats an apple* and *It is liable to be true that the pane of glass breaks*) not the kind of thing we would naturally say, it is arguable that, in so far as they make any kind of sense, they do not in fact mean the same as the sentences they replace.

In the case of Mark 3 it turns out that while there is no difficulty in demonstrating referential opacity in the case of *Joe wants to eat an apple*, every attempt to demonstrate referential opacity in the case of *The pane of glass is liable to break fails*.[5]

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[5] I am indebted to Professor Mark Sainsbury of King's College, London, for finally convincing me that none of my numerous attempts to construct a referentially opaque context within the framework of this example were genuine cases of referential opacity.

9. The case for dispensing with Mark 2

In Section 3 (iii) above in describing Chisholm's conversion of intentionality from being, as Brentano construed it, a property of mental phenomena into a property of psychological language, we saw that what led him to introduce his second definition was that, in its linguistified form, Brentano's "intentional inexistence" criterion (Mark 1) marks off as intentional only those psychological verbs, verbs such as 'want' and 'think about', which take as their grammatical object a singular term which either need not or does not refer to anything that actually exists at the relevant time. The second definition (Mark 2) was introduced as a supplement to Mark 1 in order to include those psychological verbs, such as 'believe', 'fear', 'hope' and 'think about', which take as their grammatical object an embedded sentence in *oratio obliqua* or indirect reported speech, typically introduced by the pronoun *that*.

However, as we also saw, the effect of these first two definitions (Marks 1 and 2) is to exclude from the scope of the intentional another important group of psychological verbs, the verbs of cognitive achievement. Thus, Chisholm's first definition excludes verbs, such 'see' and 'hear', which typically take singular terms as their grammatical object, but where it makes sense to say that someone sees or hears something only if that something not only exists, but is currently projecting stimulation onto the relevant sense organ. Likewise the second definition excludes verbs, such as 'know that' and 'remember that', which take as their grammatical object an embedded declarative sentence, but one that must be true if the claim that it is known or remembered is to go through.

As he makes clear in an aside,[6] Chisholm's primary motive for introducing Frege's "indirect reference"/Quine's "referential opacity" as his third definition of intentionality (Martin and Pfeifer's Mark 3) was to allow him to include these cases as intentional also. But, as we have also seen, the effect of introducing referential opacity as a criterion for distinguishing intentional from non-intentional language is to render his other two definitions redundant. For it turns out that, provided we exclude sentences containing verbs of inspection, such as 'watch', 'look at', 'listen to' and 'savour' which are not intentional by any criterion so far proposed, and sentences in which psychological predicates are applied to the description of the behaviour of animals and human infants which, as Donald Davidson (1982) has shown, are, for reasons to be dis-

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[6] After presenting his third definition, he says:
"We can now say of certain cognitive sentences – sentences using 'know,' 'see,' 'perceive,' and the like in one of the ways which have interested us here – that they, too, are intentional." (Chisholm, 1957, p. 171)

cussed below, always referentially transparent, all the sentences that qualify as intentional by Chisholm's and Martin and Pfeifer's first two marks are also referentially opaque. This is true, I now think,[7] even in those cases where it is a general rather than a singular term whose substitution by a co-referring or co-extensional term is ruled out *salva veritate* within the opaque context.

   We have now seen, in the light of Kneale's S-intenSionality/T-inten-Tionality distinction, that Brentano's "Intentional Inexistence" criterion (Mark 1) reverts to being, what Brentano himself took it to be, the mark of a T-intenTional phenomenon rather than the mark of an S-intenSional locution. But since, as we have seen, Mark 2 was never intended in the first place to cover all cases of what we are now calling S-intenSional language and has, in any case, been superseded for all intents and purposes by the referential opacity criterion (Mark 3), we need hardly be concerned about the contortions that are needed in order to make a non-propositionally expressed dispositional statement, whether mental or 'physical', fit this supposed criterion for distinguishing an S-intenSional sentence. It would seem far better to give up any claim that the permissible falsity of an embedded declarative sentence does any useful work as far as picking out either T-intenTional states or S-intenSional predicates, and adopt referential opacity (Mark 3) as the sole criterion of an S-intenSional locution.

10. Failure to construct a non-psychological example of Mark 3

   If in the light of these considerations we abandon Chisholm's falsity of an embedded declarative sentence (Mark 2) and rely solely on referential opacity (Mark 3) as our mark of a S-intenSional predicate, we now have a situation in which there is one mark of a T-intenTional state, the Brentano-Searle-Anscombe criterion of directedness towards an inexistent and indeterminate object (combining Marks 1, 4 and 5) and one mark of an S-intenSional predicate, its referential opacity (Mark 3). The Brentano-Searle-Anscombe criterion is satisfied by any disposition, whether 'mental' or 'physical' which means that, at least if it is restricted to T-intenTionality, the hypothesis that intentionality is the mark of the dispositional rather than the mental is confirmed. But what of S-intenSionality defined in terms of referential opacity? That it cannot be the mark of a dispositional statement is suggested by the failure recorded on Table II of the attempt to demonstrate referential opacity in the case of the sentence *The pane of glass is liable to break*. This must raise the

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[7] See pp. 23-25 below.

suspicion that Martin and Pfeifer's example of referential opacity in a non-psychological dispositional statement may not be all it purports to be.

Martin and Pfeifer's presentation of their example reads as follows:

> "Similarly, although the substantival expression 'the only pink object O at L' designates the same object as the substantival expression 'the only object M of mass f at L', it does not follow from the truth of
> (3a') Acid A was able to turn litmus paper P into the only pink object O at location L.

that

> (3b') Acid A was able to turn litmus paper P into the only object M of mass f at location L." (Martin and Pfeifer *op.cit.*, p. 533)

What Martin and Pfeifer are doing with this example is to invent a very peculiar dispositional property, a dispositional property which is narrowly specified to a particular object at a particular time and place, whose possible manifestations are restricted to a particular event (litmus paper *P* turning pink) involving a particular object (litmus paper *P*) when located at a particular place (location *L*) over an unspecified, but limited, period of time. This contrasts with typical cases of dispositional T-intenTionality, such as those in our examples *Joe wants an apple* and *The pane of glass is liable to break*, where it is in an essential feature of such dispositions that they be open-ended or, as Anscombe puts it, "indeterminate." In other words, they allow for indefinitely many possible manifestations of the dispositions in question, indefinitely many possible apples any one of which would satisfy Joe's desire, indefinitely many possible ways of breaking and indefinitely many possible circumstances under which breakage might occur.

In constructing their example in this way, Martin and Pfeifer make two assumptions which are evidently mistaken:

1. They assume that referential opacity is a linguistic phenomenon which arises only in the case where two semantically unconnected singular terms share a common referent.
2. They assume that a dispositional predicate can be converted into a singular term by narrowing down the specification of the event which is disposed to occur to the behaviour of a particular individual at a particular moment of time in a particular area of space.

On the contrary, I maintain

1A. that referential opacity affects general as well as singular terms, and
2A. that, in any case, no amount of 'narrowing down' can convert a dispositional predicate into a singular term.

11. Referential opacity affects general terms

The evidence which persuades me that referential opacity affects general as well as singular terms comes from personal correspondence with Martha Kneale. Mrs Kneale provides two examples. The first did not convince me. The second did. Slightly modified, her first example (undated letter to the writer received January 1993) makes the point that from

A knows that the Greeks have always been great seafarers,

and

The Greeks = The Hellenes

we cannot infer

A knows that the Hellenes have always been great seafarers.

In this case my intuitions, for what they are worth, do *not* identify this inference as obviously invalid. Not so in the case of her second example (letter to the writer dated March 9th 1993). Here from

George knows that daffodils are plants with parallel veined leaves,

and

Plants with parallel veined leaves = monocotyledons,[8]

we cannot infer

George knows that daffodils are monocotyledons.

Here both the invalidity of the inference and the reason for the difference between this case and the previous one are clear. For whereas it is a matter of common knowledge amongst those likely to be reading these words that the terms 'Greek' and 'Hellene' have the same extension, it is not a matter of common knowledge amongst those who are not botanically sophisticated that the same is true of plants with parallel veined leaves and those known as *monocotyledons.*

Now it so turns out that a similar pair of examples can be constructed in the case of descriptions of physical dispositions. Corresponding to Mrs Kneale's

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[8] Mrs Kneale points out (subsequent communication) that '=' here should not be understood as implying an equivalence of intension or sense between the two expressions it connects. In fact, the criteria for assigning instance to the class *monocotyledoneae* are not the same as those for assigning instances to the universal 'plants with parallel veined leaves.' While this point is well taken, I cannot accept her further claim that referential opacity in the case of general terms only arises in cases such as this where the identity statement connects two descriptions which are co-referential, but *not* equivalent in intension or sense. It is true that all the standard cases of referential opacity involve singular terms which have the same reference, but do not, on any ordinary understanding, have the same sense. There are, however, cases of referential opacity where the identity statement connects two singular terms which *do* have the same sense, as well as the same reference. For example:

From	'Philip knows that Aristotle was known as the Stagirite.'
and	'The Stagirite = The man from Stagira.'
we cannot infer	'Philip knows that Aristotle was known as the man from Stagira.'

Greeks/Hellenes example we have a case involving our standard example of a physical disposition – the brittleness of a pane of glass. Thus from

> *Joe attributed the pane of glass's breaking when struck by the stone to its brittleness,*

and,

> *brittleness = fragility,*

we cannot conclude

> *Joe attributed the pane of glass's breaking when struck by the stone to its fragility.*

As in the *Greek/Hellene* case, my intuitions do not decisively identify this inference as invalid. However, corresponding to Mrs Kneale's "monocotyledon" case, we have a case where from

> *The doctor in Molière's* Le Malade Imaginaire *attributes opium's propensity to put people to sleep to its* virtus dormitiva,

and

> *opium's* virtus dormitiva = *opium's hypnotic properties,*

we cannot conclude

> *The doctor in Molière's* Le Malade Imaginaire *attributes opium's propensity to put people to sleep to its hypnotic properties.*

However, examples like these do not given Martin and Pfeifer what they need in order to show that physical disposition predicates are S-intenSional in the sense of their Mark 3 (referential opacity).

What they need is a parallel in the case of a physical disposition predicate for the referential opacity of psychological predicates such as their

> *Tom believes that Pat denounced Mary*

or my

> *Joe wants to eat the red apple on the left*

In these cases, it is the psychological disposition verbs *believe* and *want* which impart referential opacity to their respective grammatical objects. In the *brittleness/fragility* and *dormitive-power/hypnotic-property* cases, referential opacity is imparted to an ascription of a physical disposition predicate which occurs as the grammatical object of a verb of utterance, the verb *attribute*. What Martin and Pfeifer need, and what in the nature of things they cannot have, is a case where referential opacity is imparted to an expression used to characterize *the scope of a physical disposition* by the very fact of so describing it. It is evident from the comparison between Mrs Kneale's pair of examples and the two parallel pair of examples involving dispositional predicates that the fact that in the latter pair of cases the general terms are dispositional is not what makes the one case arguably transparent, while the other is

demonstrably opaque. What determines whether or not the substitution of sy-
nonymous or otherwise co-extensive terms yields a valid inference is

(a)   whether or not the substitution is made within a phrase or embedded
        sentence in *oratio obliqua* or indirect reported speech (it is invalid only
        if it is), and
(b)   whether or not the synonymy is a matter of common knowledge within
        the relevant linguistic community (it is invalid if it is not).

12. *No dispositional predicate can be a singular term*

But even if it were the case that referential opacity is a phenomenon re-
stricted to the substitution of one singular term for another, Martin and
Pfeifer have not given and could not give us an example where two singular
terms referring, to the same physical disposition cannot be substituted *salva
veritate*, as referential opacity requires. This is not because such singular terms
remain obstinately transparent, but because there is not and, as a matter of
logic, could not be such a thing as a singular term with 'refers to a disposition.'

Martin and Pfeifer appear to believe that by narrowing down the specifica-
tion of their disposition to a particular object at a particular time and place,
they have converted the expression specifying the disposition into a singular
term which they can then show to be referentially opaque by Quine's criterion.
But in this belief they are mistaken. However narrowly specified, an expres-
sion which characterizes a disposition must always indicate *a range of possible
manifestations* of the disposition. It can never be a singular term which picks
out one and only one actually occurring event. Even an artificially invented
disposition, such as that envisaged by Martin and Pfeifer, whose operation is
restricted to a particular time and place must allow for a range of possible
variations in either the manner in which the manifestation event comes about,
in its precise timing or both. If it did not, it would not be a disposition. A term
which allows for such variation is not and cannot be a singular term.

13. *Referentially opaque contexts are quotations*

What are we to make of the failure of these attempts to construct examples
of referentially opaque contexts (Martin and Pfeifer's Mark 3) in the case of
expressions used to characterize the scope of a physical disposition? Does the
fact that such opaque contexts are readily generated in the case of expressions
used to characterize a *mental* disposition mean that we have found the 'phil-
osopher's stone,' the long searched for essence which distinguishes 'mental'
from 'physical' language, even if the essence that distinguishes 'mental' from

'physical' states still eludes us. I think not. For it is clear both from the accounts given of it by Frege (1892/1960) when he introduced the notion in the first place and from the kinds of sentence that do and do not show this feature that referential opacity is not the mark of psychological language, but rather a sign that the noun phrase or embedded sentence in which it occurs is a quotation of what some one has said or might be expected to say.

That this was Frege's view is evident from the following quotations. The first of these introduces the concept of "indirect reference":

> "In reported speech one talks about the sense, e.g., of another person's remarks. It is quite clear that in this way of speaking words do not have their customary reference but designate what is usually their sense. In order to have a short expression, we will say: In reported speech, words are used *indirectly* or have their *indirect* reference." (Geach and Black, 1960, p. 59)

The second quotation explains the failure of substitutivity *salva veritate* in the case of an embedded declarative sentence:

> "We have found that the truth value of a sentence remains unchanged when an expression is replaced by another having the same reference: but we have not yet considered the case in which the expression to be replaced is itself a sentence. Now if our view is correct, the truth value of a sentence containing another as part must remain unchanged when the part is replaced by another sentence having the same truth value. Exceptions are to be expected when the whole sentence or its part is direct or indirect quotation; for in such cases, as we have seen, the words do not have their customary reference. In direct quotation, a sentence designates another sentence, and in indirect notation a thought." (Geach and Black, 1960, p. 65)

Because of the technicalities of the terminology Frege is introducing in these passages, it is perhaps not as clear as it might be why truth is not preserved, as it otherwise would be, when different ways of referring to the same object are substituted for one another within a quotation. The reason is that to make such a substitution would be to misrepresent what was *actually* said in the case of a direct quotation (*oratio recta*) or the *sense* of what was said in the case of an indirect quotation (*oratio obliqua*).

The following evidence can be cited in support of this conclusion:
(i)   All quotations, whether direct or indirect have the effect of rendering

any singular terms they contain referentially opaque. To adapt one of Quine's (1953/1961) examples, just as from

(A1)   *Philip believes that Tully denounced Catiline*

and

(A2)   *Tully = Cicero*

we cannot validly conclude that

(A3)   *Philip believes that Cicero denounced Catiline,*

so from

(B1)   *Philip said that Tully denounced Catiline*

and

(B2)   *Tully = Cicero*

we cannot validly conclude that

(B3)   *Philip said that Cicero denounced Catiline.*

Likewise, from

(C1)   *Philip uttered the words "Tully denounced Catiline"*

and

(C2)   *Tully = Cicero*

we cannot validly conclude that

(C3)   *Philip uttered the words "Cicero denounced Catiline."*

In all these cases, to substitute another name or description for the one actually used would be to misrepresent what was said or, in the first case, what would be said, were the question to arise. The same principle applies to all the other examples given by Quine in his seminal paper on the topic.

(ii)   In his paper 'Rational animals', Donald Davidson (1982) has pointed out that, whereas singular terms inside an embedded sentence ascribing a propositional attitude to a linguistically competent human being are always referentially opaque, such singular terms become transparent when the propositional attitude is ascribed to an animal. Take, for example, a case where it is true that

(D1)   *Joe is pleased that Victor has returned,*

and

(D2)   *Victor = the Bishop of Sodor and Man.*

If Joe is a linguistically competent human being we cannot conclude that

(D3)   *Joe is pleased that the Bishop of Sodor and Man has returned,*

unless

(D4)   *Joe knows that Victor is Bishop of Sodor and Man.*

Whereas, if Joe is a dog, not only can we make no sense of Joe's knowing that Victor is Bishop of Sodor and Man, we are perfectly entitled to conclude from (D1) and (D2) that

(D3)   *Joe is pleased that the Bishop of Sodor and Man has returned*

without the need for any additional premise. The same would apply, if Joe were a pre-linguistic infant.

The only reasonable explanation of this phenomenon is that when the propositional attitude is ascribed to a linguistically competent human being, it is understood as a quotation of what that individual would say, if asked about the mental state in question. In that case the substitution of an alternative name or description may well misrepresent what she or he *would* say. Where the propositional attitude is ascribed to a pre-linguistic organism, on the other hand, the embedded sentence is understood merely as a way of indicating what aspect of the prevailing circumstances is evoking a particular response from the animal, thereby linking those circumstances to a range of other actual and possible circumstances which have and would produce the same effect. In this case the function of the singular term is simply to identify the particular individual whose presence evokes that response. Needless to say, *that* function is one which *any* singular term which uniquely identifies the same individual can perform. Consequently, any such term can be substituted without affecting the truth value of what is asserted by the sentence as a whole.

(iii)   As we have seen above, the evidence cited by Martha Kneale shows that, although not every substitution of one general term by another with same extension is unacceptable within the kind of context which, on this hypothesis, is interpreted as a quotation, such substitution are acceptable only if

(a)   the quotation is indirect (*oratio obliqua*) rather than direct (*oratio recta*) – unlike direct quotations, indirect quotations do not purport to report a speaker's exact words – and

(b)   it is a matter of common knowledge within the relevant linguistic community that the substitute term has the same extension as the one it replaces.

Any substitution of one general term by another which fails to satisfy these two conditions constitutes a misquotation of what was actually or would be said, as the case may be.

14. T-IntenTionality, S-IntenSionality and the psychological

It thus appears that when Kneale's distinction between T-intenTional phenomena and S-intenSional language is applied to the five marks of intentionality listed by Martin and Pfeifer, T-intentionality as defined by the Brentano-Searle-Anscombe criterion (marks 1, 4 and 5) turns out to be the mark of a

disposition, while S-intenSionality as defined by the criterion of referential opacity (Mark 3) turns out to be a sign that the locution in question is a quotation. What is striking about this conclusion is that neither of these two criteria is specifically psychological. How then are we to explain the deep-rooted belief on the part of philosophers that there is an intimate conceptual connection between T-intenTionality and mental states and between S-intenSional locutions and our ordinary psychological language?

In the case of T-intenTionality, it has something to do with the unparalleled richness and variety of the dispositions which make up the mental life of human beings. All mental states, it turns out, are dispositional in nature. All instantaneous mental events consist in the onset of a dispositional mental state. Mental activities are aimed at the achievement of a dispositional mental state, even when they are not performed with an existing dispositional orientation, as in the case of activities such as looking for something, enjoying something and trying to do something.[10] Moreover, although this is very much a matter of degree, the number and complexity of the mental dispositions which we need to invoke in order to account for the way a human being behaves is vastly greater than those needed to account for the behaviour of other things. As a rule of thumb, we can say that the simpler an entity, the smaller the number and complexity of its dispositional properties. The quark, perhaps the smallest and simplest entity we know of, has but one dispositional property, its 'charm'.

But it is not just the complexity and omnipresence of mental dispositions that inspires the belief the T-intenTionality is somehow peculiarly mental, it is also the case that the behavioural/psychological dispositions of living organisms differ, or rather differed until the recent development of 'intelligent' machines, in one respect from those of inanimate objects. Whereas all dispositions, as we have seen, are directed towards an indeterminate class of events, their manifestations, which do not yet exist and may never do so, the behavioural dispositions of living organisms are directed towards their manifestations in a way that is different from the way a body of any appreciable mass has a propensity, unless somehow prevented from so doing, to fall towards the centre of the earth. These biological dispositions are subject to the principle of 'negative feedback' (Rosenblueth, Wiener and Bigelow 1943) whereby devi-

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⁹ I am indebted to Richard Garrett (see his Garrett, 1985) for drawing my attention to this observation.

¹⁰ Because they involve no current dispositional state, the grammatical objects of verbs such as 'attend to', 'look at', 'watch,' and 'listen to' show no trace of referential anomaly from either source. The context refers to an actually existing feature of the subject's current stimulus environnment. Extensionally equivalent singular terms can be substituted without affecting the truth value of the sentence as a whole.

ations from the route towards a preordained outcome, the manifestation of the disposition, are detected. This in turn sets in motion a process whereby the deviation is corrected and the direction towards the manifestation of the disposition is maintained.

What makes it tempting to talk about dispositions which are controlled in this way by negative feedback as peculiarly mental is the feature whereby the outcome towards which the disposition is directed is not something towards which the property-bearer is inexorably driven by circumstances beyond its control, as it is in the case of a 'physical' disposition. It is, of course, the essence of a negative feedback system that it establishes control over deviations which occur primarily as a consequence of the operation of these 'blind' and 'purely physical' dispositions. But, as is well known, many purely mechanical devices, such as governors and thermostats, operate according to the negative feedback principle. They do so, however, only at the behest of their human designer who selects the goal any deviation from the route towards which the device is designed to detect and correct. What is, or has been until recently, the exclusive prerogative of complex free-moving living organisms (animals) is the ability to select the goal towards the realisation of which the current behaviour of the organism is to be directed.

Linguistically competent human beings typically select the goal towards which current behaviour will thereafter be directed by a process of rational deliberation. In this procedure the various goals which the individual might usefully pursue, together with the means required to achieve those goals and other relevant information are formulated in the form of sentences in natural language so that a choice can be made both of the goal to be pursued and of the means whereby it is to be achieved. This process of rational verbally formulated decision-making does not take place exclusively within the privacy of the individual human soul. It is to be found in the cooperative decision-making that takes place within all human social groups and institutions. Its omnipresence as the foundation of all human action is assumed both in the predictions we make as to what another person will do in cases where we do not have information as to how they have reacted in similar circumstances in the past and in the use of persuasion as a device for influencing what they will do in the future. Its omnipresence explains why it is that the mental dispositions that we typically invoke in order to explain and predict the behaviour of others and to account for our own behaviour are characterised by means of *quotations* of what the agent could or would say about the issue with which she is currently confronted in the process of deciding what to do in that situation. It is these quotations, needless to say, which constitute the referentially opaque/S-in-

tenSional noun phrases and embedded sentences which are used to characterise the 'content' of such mental dispositions.

15. Dispositional quotations: the oration obliqua

Unlike quotations of what someone has actually said on some occasion in the past which are sometimes direct (*oratio recta*) and sometimes indirect (*oratio obliqua*), the quotations used to characterise an individual's mental dispositions are invariably in the *oratio obliqua* or indirect reported speech form. The virtue of indirect quotation (*oratio obliqua*) is that it allows the speaker to accommodate Chomsky's (1958, etc.) principle that sentences are seldom repeated word for word, but are constructed anew on each occasion of utterance. It is a consequence of this principle that, unless a speaker has access to a written or taped record of someone's actual utterance, a direct quotation will be an approximate reconstruction of what someone actually said, rather than what it purports to be, a record of his or her exact words. It is also a consequence of Chomsky's principle that every sentence that a speaker constructs and utters is one amongst a range of possible manifestations of the disposition to construct one and only of that range of possible sentences on the particular occasion of utterance. The effect of indirect quotation is to avoid the inevitable misrepresentation of what was actually said by using what purports to be, not the speaker's exact words, but another manifestation of the same sentence-construction disposition, thereby providing the listener with what Peter Geach (1957) has called "the gist or upshot" of what was actually said.

Where indirect quotation is used to characterize a mental state, the open-ended character of the quotation enables the speaker to allow for the variety of possible sentences which the subject might construct and utter when manifesting the disposition which is being characterized. In this case direct quotation is only used to report a particular manifestation of the disposition and is virtually restricted, for obvious reasons, to the first person case — *So I says to meself "..."*.

16. Conclusions

Martin and Pfeifer have claimed that physical dispositions show all those features which philosophers have identified a the 'marks of intentionality.' They distinguish five such marks and provide parallel psychological and non-psychological examples of each mark. An appraisal of their claim based on

the use of the same pair of examples in the case of all five marks supports the following conclusions:

1. Applying Kneale's (1968) distinction between S-intenSional and T-intenTional states, shows that three of the five marks (Mark 1 – Brentano's 'inexistence' of the T-intenTional object, Mark 4 – Searle's directedness of a T-intenTional state towards a T-intenTional object – and Mark 5 – Anscombe's indeterminacy of the T-intenTional object) pick out T-intenTional states.

2. It also appears that these three marks constitute a single criterion of T-intenTionality, the Brentano-Searle-Anscombe criterion whereby a state is T-intenTional if it is directed towards an object which need not or does not yet exist and is, therefore, indeterminate.

3. It also appears that every disposition, whether mental or 'physical' satisfies this criterion and that every state that satisfies it is a disposition. It follows that T-intenTionality as defined by this criterion is the mark not of the mental, but of the dispositional.

4. The remaining marks (Mark 2 – Chisholm's permissible falsity of an embedded declarative sentence – and Mark 3 – Frege's "indirect reference", Quine's "referential opacity") are marks of S-intenSional locutions.

5. Mark 2 (Chisholm's permissible falsity of an embedded delcarative sentence) was never intended to embrace all S-intenSional locutions and can only be made to do so (a) by converting noun phrases or interrogative that occur as the grammatical objects of psychological verbs into declarative sentences and (b) by ignoring the fact that verbs of cognitive achievement require that any embedded declarative sentence that occurs as their grammatical object be true. Since, with very few exceptions, those sentences which fall within its scope are S-intenSional by virtue of satisfying the referential opacity criterion (Mark 3) it seems right that this criterion should be discarded, leaving referential opacity as the sole criterion of S-intenSionality.

6. Evidence both from the considerations that led Frege to introduce the concept in the first place and from the kinds of noun phrase or sentence which fall within the scope of this criterion shows that failure of substitutivity *salva veritate* (Mark 3 – Frege's "indirect reference", Quine's "referential opacity") arises only in the case of a quotation of what someone has said or would be expected to say, where to make such a substitution is liable to misrepresent what has been or would be said.

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