SECRET AND COMMUNICATION

A NEW APPROACH TO THE CONVERTIBILITY OF DE DICTO TO DE RE

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1. The concept of secret

The ordinary use of "secret" is so diverse that it covers a vast field of meaning; to narrow it down we can turn to the dictionary and take its various definitions as a starting point. Naturally, we then neglect some particular occurences of the words as a lexical item, though at the same time we presume that they could be classified under the following two definitions.

The Oxford English Dictionary gives seven separate definitions of the word "secret" as a substantive; among them two are very specialized (2. a prayer in liturgical use, 7. a coat of mail), two others do no more than specify things that can serve as the object of secret (4. a method, 5. a place), one lists only several phrases with the word "secret", while the remaining two unfold the basic meanings of "secret" at once interrelated and contrasting:[1] "1. Something unknown or unrevealed or that is known only by initiation or revelation, a mystery chiefly pl., the hidden affairs or workings (of God, Nature, Science)" and "3. Some fact, affair, design, action, etc. the

knowledge of which is kept to oneself or shared only with
those whom it concerns or to whom it has been confided,
something that cannot be divulged without violation of command
or breach of confidence."[2]

According to the first definition the secret should
correspond to an object beyond the bounds of knowledge. Then
it is viewed as something existing like a real object, while
the word "secret" expresses a negative epistemological attitude.
For in this sense we deal with the secret as an epistemological
phenomenon the cause of which has yet to be discovered. Now
the secret is not a linguistic but rather a scientific problem,
though language cannot be wholly excluded for all our understan-
ding is closely related to speaking: there is no problem until
we consider secret a thing that is totally unknown, but as soon
as we obtain the minimal information[3] on it and we name it al-
though we known nothing of its cause except its being, i.e. it
exists, the over-discussed problem of analyticity arises, and
the epistemological problem becomes a linguistic one too. For,
as Searls pointed out, "the argument of defining the criterion
of 'analytic' is self-defeating";[4] in other words, how can we
name a thing without knowing the very essence of its existence
(that is the criterion of applying the term to new cases). Still
the solution remains scientific: it is more relevant informa-
tion from empirical sources that we have to have for naming.
So we cannot know a thing unless we possess the necessary
information as to its cause, for knowing that it exists generally

is not enough.

According to the third definition the secret should
correspond to a way of communication; it describes a situation
in which contact between potential addressers and addressees
is prohibited. To this we may add some other cases when the
break-down of contact is not intentional: the addresser and
the addressee cannot get into touch because of reasons of
time-and-space, or there is a physical contact but somehow
they do not seem to speak the "same" language and so they
cannot understand each other. In this sense we deal with the
secret as a linguistic phenomenon but we will inevitably intrude
into the field of pragmatics as well.[5]

To sum up so far, we have two clear-cut definitions of
"secret":

a./ the first refers to an epistemological attitude, to a
relation between things and human consciousness. Here we would
like to put emphasis on the latter because we hold strongly
the view that the secret can never be an attribute of things
or a label attached to them by the human mind or a thing-in-
-itself; neither can it be a type of behaviour sanctioned by
conventions. Briefly, it is not an entity but a system of rela-
tions.

b./ the second definition refers to a type of communication:
in this approach, it is less tempting to think of secret in
terms of an ontological entity than to consider it as a
communicative situation. For it is not the knowledge but the
divulgation of it that matters; not the information in itself

but the fact that it is kept from others. So this type of
communication will be describable in terms of those who keep
the information to themselves and of those from whom it is
kept; i.e. in terms of potential addressers and addressees.

We aim at giving a general and unified description of sec-
ret based on the two definitions above. But then we encounter
a very serious problem: What will the relation between the
radically different definitions be: is it possible to for-
mulate one without referring to the other? If yes, then they
cannot be used as parts of a more general theory because we
shall have to speak of two basically different concepts of
"secret"; if no, then our argument will surely turn out, at
one point or other, to be self-defeating, though we have seen
that this failure is due rather to analyticity than to a more
particular theory of secret. In other words, we have to
consider the relation of epistemology and communication.

The situation is parallel with the problem of linguistic
meaning and utterer's intention. In "Meaning and Truth"
Strawson[6] argues for the interrelatedness of a semantic and
a communicational theory of language; if the utterer produces
his utterance with a complex audience-directed-intention,
involving the audience's thinking that he has a certain
belief, there is no detached element corresponding to this
expressing a belief with no such intention. But this does
not mean that an Audience-Directed-Belief-Expression (ADBE)
is a kind of logical compound of two simpler concepts of AD
and BE and hence that BE is conceptually independent of ADBE.

What we can do is produce a description of a belief expression and imagine a case for it, although this description will depend on the description of the case in which the utterer has an audiance-directed-intention. This argument closely parallels our own in the following way: we can avoid the problem of the interrelatedness of our two definitions in two ways; either we exclude the first one from our analysis on the basis of a very strong argument; it lacks a criterion used in ordinary life when somebody considers something secret, i.e. there should be an intention not to reveal the secret to others; or we use the word "communication" in a wider sense: we consider every activity of an individual in getting new information on a certain thing as a type of communication - permitting that in some cases the addresser remains unknown or is not a definite person but a thing, Nature, Fate, Social Institute, etc. Then we may preserve our first definition as the description of certain conditions to be fulfilled for a successful communication of the secret. We choose the latter solution. Now the relevance of Strawson's argument should be clear: the definition referring to an epistemological attitude will correspond to a Belief-Expression and will then give the semantic description of "secret", what its meaning is, the definition referring to a type of communication will correspond to an Audience--Directed-Intention and will then give account of the pragmatics of "secret", what its use is like. And the two definitions together will serve as a framework for a theory of "secret" determining a certain speech-act which - as we will argue

later - parallels the pragmatics of referring and needs the
incorporation of some game-theoretical elements. In this
approach we can avoid entering the field of ontology, and
even the problem of the relation of epistemology and communica-
tion seems to evaporate: knowledge (and belief respectively)
and communication (of this knowledge and belief) cannot be
separated; knowledge cannot be conceptually independent of
communication in general, i.e. our activity of knowing and our
activity of communicating seem to run on parallel lines.
However, they are not logically interrelated: there is no logical
necessity between an epistemological attitude which turns on
knowing (believing) a certain thing and the communicating of
this thing as a secret. Rather we would say; the communication
of a thing intended as a secret conversationally presupposes a
certain epistemological attitude with respect to that thing. Or
conversely, for every epistemological attitude with respect to
a certain thing can be found a case in which it is associated
with some intention to communicate that thing as a secret. Or
more generally, the secret is a system of certain rules and
conditions that orientates our activity to acquire knowledge.

In the forthcoming analysis we argue that there is a
common term for many of the debated categories of modal logic:
quantification, referentially transparent vs referentially
opaque, "de re" vs "de dicto", possible worlds, etc. So in
explicating what this term means we can account for all these
problems and on the very same basis: if they can be reduced
to some well-known thing in ordinary life and if this then can

be described as specifying certain relations logically, they
all are given a unified and general explanation. It is for
these aims that we recur to the word "secret". In conducting
a conceptual analysis of it, instead of speaking of the inter-
relations of concepts, we make use of the interrelations of
concrete individuals, i.e. when we define "secret" as "some-
thing kept unknown from someone by somebody", we say something
like: there is a proposition p and there are at least two
individuale x and y such that $x=a$ and $y=b$, and a knows that p
while b does not know that p, and a intends that b does not
know that p.[7] Though this scheme will be amended later, it
seems clear that we are in favour of a quantified modal logic.
But the validity of this option can only be made apparent from
a pragmatic point of view.

A further comment should be made about the use of some
terms of our analysis; we start with giving a framework for a
general description of "secret" and we define two components
of this conceptual framework, the semantics, which determine
certain conditions and which can be specified within a simple
modal logical system, and the pragmatics, which comprises certain
rules for corresponding communicative acts when our defined
semantic ideal becomes applied, and which even explains some
reasonable cases of the logic of action. Throughout this ana-
lysis we use the terms epistemology and communication somewhat
interchangeably; this does not mean that we hold them to be
identical, but otherwise we cannot give a pragmatic account for
some crucial semantic problems. Another minor justification

may be that we take over the instrumental idea of modal lo-
gic,[8] which, in turn, will have no sense unless its relation
to a possible pragmatics is clarified; in accordance with this,
we assume the point of view not of a single individual but of
a whole community for we are concerned not with the ontology
of notions but with their epistemic applicability, which,
within a community, strongly involves communication. So it is
very difficult to doubt the interdependence of these two
concepts though surely there is no logical tie between them:
the first can be specified within a possible semantic system
of modal logic while the second can be delineated in virtue of
certain governing rules conceived within a corresponding
pragmatic system. But there is no necessity for the actual
interplay of the two. So to explicate what the concept of
"secret" stands for we have to state what the relation of
epistemology and communication is like, i.e. the relation of
certain conditions and rules. The rules should give us the
intended type of communication while the conditions are prag-
matically presupposed in the rules of communication and hence
making possible certain conversational implicatures[9] and so
not being conceptually independent of the total speech-act
of secret. This may serve as a framework of a general descrip-
tion of the two different definitions.

2. Secret as a system of epistemological conditions

In this part we concern ourselves with epistemic logic in
that we try to set down some semantic conditions of the function
of secret. Though it has been thoroughly dealt with by many

logicians the basic ideas may still seem, if not at once
paradoxial, at least questionable. All that we feel is that
it is needed to explicate some concepts which are used in or-
dinary language. In trying to do this we will inevitably
construct a system, a "normative ideal"[10] which being applied
in certain cases will show some discrepancies; but these discre-
pancies will not invalidate our original system for it is not
important whether everything in our theory corresponds to so-
mething in our empirical subject matter or vice versa (there
is no empirical reality that could be fully and unquestionably
conceptualized). It is enough for us that "in providing a for-
mal analysis of a cluster of concepts by developing a semantics
and truth conditions for sentences expressing propositions
about those concepts, we are interested primarily in the kinds
of relations which may obtain among the entities which comprise
our subject matter. For it is in terms of these relations that
we construct the truth and denotation definitions for our for-
mal language and it is in virtue of these relations that the
axioms of our theory will turn out to be logically true."[11]
So we aim at clarifying some logical relations that obtain
between certain potential relata of our theory, and it is how
such we can comprise in our theory without violating certain
laws of consistency, compactness, well-formedness, etc. that
will decide whether epistemic logic is worth the having.

As we have seen that the modal conditions are strongly re-
lated to the operating rules of communication we have to make
some general statements about the social relevance of the

problem. This also follows from the fact that modality should

not be seen from the point of view of a single individual but

of a whole community. We do not exclude cases when it is an indi-·

vidual who seeks to know a certain thing but we have to concede

that anyone of the community to which the given individual

belongs may join him in the search. In this case secret can

only function in a community. This community need not correspond

to society; we consider a community every association of people

with a certain purpose and so with a definite system of norms

that helps any member of the community in deciding the truth-

-value of a piece of information in the event that the corres-

ponding verification of it might be hindered somehow. According

to the specific system of norms involving e.g. initiation,

structure of power, etc. different types of community can be

established: religious, political, social, ethical, etc. The

force of their normative systems may vary on a wide range; they

can even cut off the members from any external sources completely

debarring re-valuation. But this fact does not have any bearing

on the analysis of secret; as the modal conditions relative to

epistemological attitudes of certain members of the community

are dependent on the rules of communication what will concern

us is the fact of communicating certain beliefs to be specified

later as different kinds of semantical strategies - and not a

set of propositions either true or false; i.e. we let alone

the problem of truth and falsity and consider some performative

character of "secret". Then the clarification of the corres-

ponding system of norms can only aim at stating what may be

reasonably expected to be believed to be true, i.e. at descri-
bing a set of conventions relative to the content of beliefs
while leaving intact the logical structure of the communica-
tion of secret. Then the epistemological conditions - to be
called from now on "modal contexts" - will take over the place
of simple propositions to be either true or false - which have
nothing to do with the concept of "secret", though the defini-
tion of the above conditions will be made with respect to the
same proposition.

Now we turn to the construction of the modal contexts. First
we introduce some logical terms: instead of information we
speak about propositions, but we consider only such cases when
they can be reformulated as $f(x)$ where x is a variable into
which proper names can be substituted. To indicate the possi-
bility of substitution we write d/x where d is an individual
constant. Now, let the form $f(x)$ correspond to minimal infor-
mation that states the existence of a certain object while
$f(d)$ corresponds to the maximal information that states the
cause of its existence. Then if p is an arbitrary propositi-
on, $p(d/x)$ does not say more than $f(x)$, i.e. p contains a free
variable; while $f(d)$ will be indentical with the stronger
formula $p(d=x)$, which will certainly imply the former but not
conversely. Then, on the basis of what has been said we can
construct the modal contexts in the following way: in de-
scribing the propositional attitudes of the members of the
community let us use the verb "to know"; there are many things
that may prompt this use; first of all it entitles us to gene-

ralize existentially in the modal contexts in a certain unprob-
lematic way, whereas with other epistemic verbs it might seem
inappropriate; secondly, in communication what are pragmatically
or conversationally presupposed on the part of the speaker are
- according to the maxims of Grice - certain beliefs which are
to be taken adequately grounded to be true by the audience;
thirdly, it is the communication of certain beliefs, presump-
tions, knowledge, etc. that interests us and not what kind of
beliefs, presumptions, knowledge, etc. can be communicated.[12]
So, we indicate with the capital letter K the verb "to know"
and with the small latin letters a, b, c - figuring in the
indices of K - the persons whose propositional attitude are
being described. Now, if $p = f(x)$ is an arbitrary proposition,
it can function as secret within a certain community, if and
only if there can be defined three different modal contexts
all of which will have p in their scope and which can be
described as follows:

(i)   let a stand for those and only for those individuals
who know about a certain thing as secret in a given community
but they do not know the solution to it; then they know $f(x)$
but they do not know $f(d)$; e.g. they know that x robbed the
bank but they do not know that x is none other than the Great
Ben;

(ii)   let b stand for those and only for those individuals who
know about a thing as secret in a given community and who also
know the solution to it; then they know $f(d)$, too; e.g. if

p = "x killed the president" and x is the Great Ben, then b
is entitled to make the following statement: "I know who killed
the president" - only if he happens to know that the Great Ben
was the murderer;

(iii) finally let c stand for those and only for those indivi-
duals who do not know about a thing as secret in a given communi-
ty; then they do not know even $f(x)$, e.g. they do not even know
that somebody killed the president.

In terms of a, b and c all the members of the community
can be defined. Then, what we have said informally can be
formulized in the following way:

(1) $(\exists a)$ $(\exists x)$ $[K_a p(d/x)$ and $\sim K_a p(d=x)]$

(2) $(\exists b)$ $(\exists x)$ $[K_b p(d/x)$ and $K_b p(d=x)]$

(3) $(\exists c)$ $(\exists x)$ $\sim K_c p(d/x)$

This can be seen as the result of a first general approach
of the meaning of "secret". It is based on some theses of
"Knowledge and Belief" and some other works by Hintikka where
he makes a restriction on quantification in modal contexts
using the surplus condition "y knows what a is" formulated as
"y knows that $x = a$". The validity of this restriction on
quantification has been questioned by others.[13] To reject
counter-arguments we can refer to McLane's paper emphasizing
that this is to be considered as a "normative ideal", though
a stronger reason for rejecting them is to be found - as we
will see - in a pragmatic reconsideration of the same problem.
What is important at this point in our analysis is whether the
formulas of (1) and (2) are adequate to reflect the basic

semantical problem for which the concept of "secret" was
introduced. This results clearly from Hintikka's argument on
analyticity and on model sets. It says that as soon as we
speak about model sets a free singular term to be substituted
into a variable bound by a quantifier will not pick out a
particular individual and so the corresponding picture to be
constructed on the basis of the prescriptions the given model
set contains is never a unique one: there is always a multip-
licity of correlations, i.e. it represents reality in more than
one way; and this is what our modal context (1) should mean.
While the other context (2) should indicate an end-point in
the corresponding picture construction with its stronger
restriction $(d=x)$, though this is a very limited process.
Suffice now to say that the possibility of arriving at such
an endpoint can never be defined semantically but only within
a pragmatic framework.[15] So this should be the real difference
between (1) and (2): in the first case we contemplate a clear
semantical aspect of the problem, whereas in the second we
arrive at an extralinguistic aspect of the same problem, i.e.
we have come across a deictic element. And this is just what
the capture of the real author of a crime can amount to. But
this means that (1) does not contain any successful reference
- at least not with respect to the individual that is existen-
tially generalized in $(\exists x)$ - for it lacks the final deictic
element that should pick out unambiguously the individual to be
substituted into x. This also explains the validity of

existential generalization: it is context (2) that contains

reference to the right individual, then the use of the

quantifier in (2) is adequately grounded; but as we strongly

hold that the three contexts should never be separated (they

will have no relevance to the meaning of "secret" if used

separately) the x bound by the same quantifier in (1) as in

(2) serves only to show that there are persons (indicated by a)

who cannot refer successfully to the individual to which

others (indicated by b) can refer unambiguously; i.e. x is

introduced to show the different epistemological relations

of different persons to the same object. We see again that we

are interested in the relations that hold between subjects

(individuals) and objects (other individuals) where the subjects

differ and the objects remain identical. This identity is shown

once and for all by the same letter x and it is the context

(2) that makes valid quantification in all the three, provided

they are always occur together. Then, (d/x) does not indicate

a reference to the individual d if $(d=x)$ contains the sufficient

condition of referring. What an analysis of secret should show

is that this condition is often lacking, i.e. (1) is possible.

But then we have to concede that the modal context of (1) might

be referentially opaque; and not only this but that it might

even allow the substitution of another individual than d, say d'

because it is possible that $p(d'/x)$ is true, even if $p(d'=x)$

is false. But clearly $p(d'/x)$ has no sense unless it is

indicated who thinks the substitution of d' possible. This is

for what (1) has been introduced; it not only shows the identity

of objects with which the different epistemological relations
of the subjects hold but - as being referentially opaque at
the same time - it may contain a reference though not to the
right individual d but to another one, to d'. This mistaken
reference (with respect to x fully specified in (2)) is based
on certain predicates that occur in the given proposition p and
apply uniquely to the right individual d to be substituted
into x. This is a clear case of misdescription: a predicate P
uniquely applying to an individual d is made to describe an
individual d' by a given subject a. In spite of misdescription
a will be referring to d' and not to d (to whom the predicate
applies). What a does then is a kind of "de dicto" specifica-
tion of the referent in that he takes a predicate P and sees
what individuals belong to its extension. But he may be wrong
as he has been above choosing d' instead of d (with respect to
the contexts). That means that (1) can be re-written as a "de
dicto" reading:

(4) a knows that $(\exists x)p(x)$

while (2) will correspond to a relative "de re" reading:[16]

(5) $(\exists x)$ that a knows that $p(x)$.

But as reference depends on reading a context "de re", what a
does when he misdescribes d' as x (fully specified in (2)) is
to make a conversion of "de dicto" into "de re". But the
result of this process is reference to d' and not to d. So we
can either prohibit such a conversion and say that only a "de
dicto" reading is possible - in which case it can be strongly

doubted whether a is referring - or accept it as a possible
conversion without the sufficient condition $(d'=x)$ being
fulfilled. But if so, then naturally the x figuring in (1) and
in (2) or in (4) and (5) will not be identical any longer
(with respect to the contexts); and d will become a variable
just like x. Once again the solution is pragmatical: it
foreshadows the introduction of semantic strategies.

3. The convertibility of "de dicto" in to "de re"

We have seen that the modal contexts of (1) and (2)
reflect the difference between a "de dicto" and a "de re"
reading. The condition of reference is the possibility of "de
re" reading while in describing the individuals all what we
have is a set of predicates applicable to them, i.e. it suggests
a "de dicto" specification; but then we always convert a "de
dicto" reading into a corresponding "de re" one when we refer.
So we should analyze some theses of the convertibility of "de
dicto" into "de re" (or vice versa) stated by eminent philosop-
hers of our time. We have to deal with three different for-
mulations of the same problem. As we will argue later on,
these different approaches - in spite of the diversity of the
applied terms - describe the same phenomenon and so they run
on parallel lines. In dealing with them we try to emphasize
their most important characteristics focusing on the solution
they give to the problem of the relation between the modalities
"de dicto" and "de re".

But before treating these variations in detail we should
mention that a criterion that makes the convertibility analytic
is useless for us since it once for all excludes any kind of
difference between (1) and (2) and thus the analysis of secret
becomes impossible. Such a criterion is provided by what is
known as the Barcan formula:[17]

$$(6) \quad (x)L\phi x \supset L(x)\phi x$$

the validity of which depends on the fact of whether there is
a possible but unactual object in an arbitrary W_n world. Only
when (6) ceases to be valid will it become relevant for us
because it then allows the formulation of (1); however we are
going to account for the possible but unactual object within
a pragmatic framework.

The first formulation of the problem is naturally linked
with the name of Quine. According to him there are two diffe-
rent modal contexts: (i) transparent and (ii) opaque. Quantifica-
tion is only allowed in transparent contexts but then it will
inevitably involve Aristotelean essentialism because to
identify the variable x, which figures in the scope of a modal
operator, with the x bound by, say an existential operator we
need to select from all the possible features of a given
individual to be substituted into x an essential feature that
is known (believed, presumed etc.) by a, b, c figuring in the
indices of the relative modal operator and this essential
feature will serve as the basis of quantification into a modal
context while quantification should be regardless of any kind
of description of the individual. It is possible only if this

essential feature is among the features attributed in reality

to the given individual. Then all the quantification is depen-

dent on a certain privileged description of a given object.

From this argument it turns out that a purely transparent

context is impossible for it will be true only "under a certain

description" i.e. "necessity does not properly apply to the

fulfilment of conditions by objects (such as the ball of rock

which is Venus, or the number which numbers the planets), apart

from special ways of specifying them."[18] So necessary fulfil-

ment of a given quantified proposition makes no sense as applied

to physical objects x, but necessity attaches, at best, only to

the connection between the given proposition and different means

of specifying x. The conclusion is that modal contexts are a

failure, at least transparently conceived, for they are opaque.

But if this is just what opacity means then it is the same as

modality "de dicto" applied to epistemic contexts. Still there

are others who think that there is a crucial difference between

the modality of necessity and propositional attitudes.[19] The

basis of their argument is that an arbitrary person may not know

a given identity statement although identities are considered

as cases of necessity. So propositional contexts lead to an

infinite process of the splitting up of individuals. Still

there efforts are being made to solve it within possible world

semantics; the main difference, according to us, lies in

choosing a relative point of view, be it our actual world, or

a representative name, or the person himself whose proposi-

tional attitude is being described with the help of certain

possible worlds compatible with his set of beliefs (presump-
tions, knowledge etc.) - from which accessibility relations,
substituion examples, etc. would be definable because, while
necessity in many cases causes no problem, being valid for a
whole class of entities (names, worlds) even in an absolute
sense, with epistemic modalities we have to indicate certain
sub-classes which can be given with respect to certain rela-
tive points of view. This latter is responsible for all accu-
sations of being committed to essentialism. This argument also
shows why Kripke's semantics becomes exposed to such accusa-
tions only if being applied,[20] but it is not dependent on a
possible worlds semantics. The crucial problem in giving a
semantics of propositional attitudes is that of referring. Just
because of this do we consider the two kinds of modality
("necessary" and epistemic) similar cases: they all turn on
giving adequate criteria of reference. And this is what links
the transparent-opaque distinction with that of "de dicto" -
"de re". Though we doubt that this problem could be solved
within a semantic framework, we re-view some important approaches
to try to account for the above distinction semantically, while
at the end we give our reasons why this kind of analysis is
doomed to fail.

One of the most complete and thorough treatments of this
problem is given by Alvin Plantinga.[21] His approach aims at
giving the conditions of the convertibility of "de re" into
"de dicto". He says: "Where x is an object and P is a property,
the kernel proposition with respect to x and P $(K)x$, $P(\ )$ is

the proposition expressed by the result of replacing 'x' and
'p' in 'x has the complement of p' by the proper names of x
and P." And later he adds: "x has P essentially if and only
if x has P and K(x,P) is necessarily false."[22] If essential
properties are possessed necessarily, then the above require-
ment to explain modalities "de re" by modalities "de dicto"
follows from the Quinean thesis that "necessity resides in
the way we talk about things, not in the things we talk
about."[23] Though this cannot be applied directly to proposi-
tional attitudes just because the modality of "necessary"
involves "true in all possible worlds" and an epistemic one
involves only "true in a possible world" (or worlds) compatible
with the set of beliefs (presumptions, knowledge, etc.) of the
person whose propositional attitude is being described". But
as we have been interested in the relations that hold between
subjects and objects (an epistemic analogue for modality of
"necessary" could be an omnipotent subject) and in accordance
with what we have said above on the privileged point of view
in giving a semantics, these conditions of convertibility have
to be applicable to epistemic cases, too. What matters here is
that Plantinga's solution also fails in avoiding essentialism
which is present in the requirement of certain favoured
descriptions regardless of their being attributed to the object
necessarily or of their being believed (presumed, known, etc.)
to be attributed to it by a certain person. The convertibility
of (7) in to (8) then turns on 'x is not a spy' which is being
believed to be false by Ralph:

(7)　(∃x)　(Ralph believes that x is a spy)

(8)　Ralph believes that (∃x) (x is a spy).

What seems to us a little disconcerting is what we may call
an asymmetry of objects and properties; this means briefly
that there can be certain properties in a given world which
are not instantiated by objects existing in that world
although they do exist in it, while there are certain objects
which, although they do not exist in a given world, do enjoy
certain properties in it. Though this would not mean asymmetry
with respect to all possible worlds, in Plantinga's work there
is an implicit assessment: the properties not instantiated by
objects existing in a given world need not correspond to those
properties instantiated by objects not existing in that same
world. This treatment runs the risk of considering properties
to be objects and of so allowing that two kinds of objects
exist side by side. This asymmetry may be due to the introdu-
cing of negation into the criterion of convertibility. For,
given the two kinds of negation, then the complement of "being-
believed-by-Ralph-to-be-a-spy-in-W" - which is a world-indexed
property and hence an essence - cannot be "being-believed-by-
Ralph-not-to-be-a-spy-in-W" because "the complement of P does
not require that the object which it enjoys should exist in W;
it is enjoyed by any object that either does not exist in W
or is non-P therein."[24]

The complement of a property P then is defined as a negation
"de dicto" and this is exactly what the criterion of conver-
tibility prescribes. But then we are committed either to

properties not instantiated by objects existing in W or to
objects not existing in W but enjoying certain properties.
The problem of epistemic and "necessary" modalities and of
their "de re" - "de dicto" convertibility is merely transferred
into the problem of negations "de re" and "de dicto". Hence a
semantic account of this problem seems either to be self-
defeating or to require some, by no means unambiguous, postula-
tion of the "de re" - "de dicto" convertibility. If we cannot
give a valid argument, then at least we can postulate either
that each instance is "de dicto" and some are "de re" or that
all instances are "de re" and some are "de dicto".[25] And even
in Plantinga's works there is a very serious postulation; namely
that he assumes the fact to be accepted that everything can be
baptized[26] which is clearly a pragmatic assumption and taken
as a semantic one. This has, for us, a rather unfortunate result
in that every descriptive phrase is at once a referring one,
too. But if so, then there is not the slightest need for a
criterion of convertibility because, even if not overtly, it
is already implied in one of the semantic postulations. But then
within such a system the concept of "secret" will never be
explicable. In order to see clearly that to make a relative
semantic system consistent one has to postulate an absolute
convertibility of "de-re" - "de dicto" or at least the possi-
bility of it with respect to a favoured point of reference we
may have other examples.
Rolf A. Eberle[27] aims at giving an account of all kinds of
false beliefs and even ignorances; to explain the invalidity

of identities within epistemic contexts he introduces the
notion of "representative name" which is "special in the ob-
jective sense"; but this is not enough because this class of
names has to fall back on "subjectively representative ones"
(which are representative for a given person). As the first
kind of name implies that the object referred to exists and
as the second kind involves knowing the object under some
description or name, we have a clear criterion of convertibi-
lity of "de re" and "de dicto" within a semantic system, even
if restricted to a class of "representative names": "If one
knows τ under some name or description, then one knows that τ
exists" (i.e. the corresponding term is a referring one);
formally, $A\tau \rightarrow K(\tau=\tau)$, where A stands for "knowing under some
description". This shows that the identity of "representative
names" is informative in that it corresponds to stating the
existence of the object referred to.

Semantically, then, the difference of "de re" and "de dicto"
is annulled. If I know x by some description, then x should
exist, i.e. it should have a representative name in the
objective sense, and if I know that x exists, then I should
know x under some dexcription, i.e. it should have a repre-
sentative name in the subjective sense.

Thomas Baldwin[28] finds the modality of "necessary" unproblematic
as interpreted transparently; he constructs a semantic system
TL which has as an axiom: "$Nec\ p$" is true in L iff $Nec("p"$ is
true in L). But this introduces "Nec" into the meta-language

and imposes a too strong criterion on semantics ("these sen-
tences have these meanings"[29]): all identities turn out to be
necessary. Another approach could be to treat "Nec" as a
property of propositions (and then we write NEC). This should
mean: "Nec p" is true in L iff NEC(ref("that p",L)), where L
is a given language and ref("that p",L) = that π; latin letters
being variables of the object language and Greek ones variables
of the meta-language. But even in this latter case identities
again turn out to be necessary and we have the following formula
as an axiom: Ref("that p",L) = that π NEC(that ref("that p",L) =
= that π). The reason is that "Talk of propositions, therefore,
is sheer nonsense unless it is taken for granted that, for the
things of which propositions are functions, all identities are
necessary". Formally:

     (9) $\alpha = \beta$ (that $\phi\alpha$ = that $\phi\beta$)

    (10) $\alpha = \beta$ (that NEC(that $\psi\alpha$) = NEC(that $\psi\beta$))

    (11) $\alpha = \beta$ NEC(that $\alpha = \beta$).[30]

So both arguments render useless a difference between "de re"
and "de dicto"; even a linguistic conception of the modality of
"necessary" cannot do without the "de re" assumption:
(x) $(x=a \rightarrow \text{Nec}(x=a))$. So a "de dicto" statement is always
dependent on a "de re" assumption with respect to those en-
tities the "de dicto" statement is about. But this criterion
is clearly inapplicable to epistemic contexts because "the
semantic theory must be regarded as giving a priori analytic
truths about part of the structure of language."[31] And then,

it will only account for epistemic contexts if the relevant
speakers were expected to have a thorough knowledge of all
the inferences of what they know. And this may be our conclu-
sion, too; a semantic system should either psotulate a conver-
tibility thesis or do without it completely and consider epis-
temic contexts opaque. But while we accept his conclusion about
semantic systems, we cannot accept that every epistemic context
is, therefore, a priori opaque. (Contexts of "necessary" have
been thought of as opaque, too, but they relied on correspon-
ding transparent explanations.)

The claim of considering epistemic contexts "de re" i.e.
transparent was put forward by Tyler Burge in his paper "Belief
DE RE".[32] His basic argument is that there are cases when a
belief "de re" cannot be converted into a corresponding belief
"de dicto". He is for a shift of perspective on "de re" attitu-
des. Though this shift is due to a philosophical assumption on
his part that perceptual contact should be favoured against a
conceptual description, though "perceptual contact is, of
course, not present in every "de re" belief." But clearly,
there are cases when "there will often be no term or individual
concept in the believer's set of beliefs about the relevant
object which denotes that object."[33] "De re" beliefs have,
then, a contextual, non-conceptual aspect, and they are
necessary to individuate the object. So to vindicate the
priority of the modality "de re" we can conclude "that 'de re'
belief sentences are not definable in terms of 'de dicto'

sentences" and it is "equally potent against the view that
for every 'de re' belief there is an accompanying 'de dicto'
belief that fully individuates the object the 'de re' belief
is about."[34] Now, we arrived at a clear explication of the
failure of the convertibility thesis and, moreover, it is put
forward not withinoa semantics - which, as we have seen, would
be paradoxical - but within, if not a pragmatics, at least an
extra-linguistic framework. This means that not only the
referential-attributive distinction but that of "de re" -
"de dicto" is a pragmatic one. Otherwise we could not help
thinking that all instances of "de re" would be convertible
into "de dicto", which is clearly false.

    To conclude our review of the semantic treatments of the
convertibility thesis we would like to mention some interesting
cases when the convertibility is by no means possible (at least
not semantically);

a./ as it is known, one of the criteria of reading a context
"de re" is substitution of identical terms; but there are some
constructions that resist substitution and still they are to
be read "de re": e.g. in "Alfred believes that the man in the
corner is a spy" the description "the man in the corner" can
be thought of as both specifying the referent (and so suggest-
ing a "de re" reading) and characterizing the believer's
conception of him (and so being a "de dicto" belief), while
substitution fails with respect to the believer's set of
beliefs about the denoted person.[35]

b./ proper names are said to induce "de re" modalities; but with some ordinary proper names and even with some vacuous ones we have purely "de dicto" belief attributions; more often, when used with a demonstrative that can even be implicit in the given name, it can be taken under some description suggesting a "de dicto" reading: e.g. in "A believes that Pegasus was a real horse", "Pegasus" is "that Pegasus" (whichever one we are talking about)";[36]

c./ a belief "de re" is said to pick out a unique individual; but from what we have said in connection with the first example (a.) it follows that a "de re" context may have different free variables as referents: i.e. "contextually difference uses of names (or demonstratives) which refer to a given entity may succeed ... in producing different belief contexts";[37]

d./ within a semantic framework, we have seen, it is generally required that for every "de re" there should be a corresponding "de dicto"; but there are cases when there is no such "de dicto": e.g. "the present moment", "the ball in the sky" and other examples of time-space coordinates can show the idea;[38]

e./ "de re" is needed to give an account for cases when there is no uniquely specific way of referring or when there is misdescription of the referent or shifts of perspective, and this is one reason why rigid designation is considered neces- sary; but this may not make manifest the difference between "de re" and "de dicto" for there can be misdescription with definite description i.e. with "de dicto" specification: e.g.

an Englishman may say that the next president of the House of
Representatives of the United States Congress will be from a
southern state; then if he said so before Sam Rayburn became
the speaker of the House, the Englishman would not have been
referring to Sam Rayburn, though he intended to refer to the
speaker of the House even if there is no particular person to
whom he was referring; so this should be a case of opaque
reference (a "de dicto" specification) with misdescription,
although there is not possible a corresponding "de re" reading:
to refer opaquely the believer does not need to recognize that
the description he uses uniquely denotes the x he intends to
refer to;[39]

f./ finally the strongest reason against any analytic converti-
bility thesis may be the following: even if a description is
uniquely specifying it may not allow existential generaliza-
tion; but what if we have n uniquely defining descriptions
specifying the same referent? - or how many uniquely defining
descriptions do we need to justify a "de re" reading": e.g.
the police know an almost infinite number of uniquely specifying
predicates with respect to the Ripper of Hampshire and still a
"de re" convertibility was not allowed.

So much for counter-examples; we think they clearly explain
why only a pragmatic account of convertibility seems possible.
But then the "de re" - "de dicto" distinction amounts to the
same as the referential-attributive one.[40] So if we are going
to explain the "de re" - "de dicto" distinction - which has

long been considered as a semantic problem - pragmatically it
may seem that we should exclude the "de dicto" reading from
the cases of reference. But already at this point of our
analysis we have to emphasize that it is the possibility of
the conversion that is the source of reference. Even an
attributive use may be referring but it then presupposes the
possibility of "de re" reading and its success will be context-
dependent. That means that a modal context such as (1) may be
referring, but not necessarily, to the x fully specified by the
context of (2); (1) presupposes a multiplicity of possible
conversions, which, in turn, depend on the intention of the
speaker.

It is David S. Schwarz who gives a pragmatic account of
the convertibility. In "Naming and Necessity"[41] he argues for
a shift of perspective with respect to some over-discussed
semantic problems. In his analysis semantics becomes reduced
to being conversationally implicated by a total communicative
act. All semantic problems become at once pragmatic: "What
the pragmatic treatment does do, however, is to remove these
concerns from the proper domain of the semantics for language
- instead treating them as problems in explicating the proposi-
tions speakers express."[42] He uses two terms (also Quinean):
notional and relational specification. But they reflect the
same difference as transparent vs opaque, or "de re" vs "de
dicto";

        (12)   There is someone John thinks is a spy

        (13) $(\exists x)$ (John believes x is a spy)

        (14)   John thinks that George is a spy

(15)   John thinks $(\exists x)$ $(x$ is a spy$)$.

What Schwarz does later in his book is similar to Plantinga's
treatment: his intention is to define relational belief
(belief "de re") (12) and (13) in terms of notional (belief "de
dicto") (14) and (15). But as he is going to give a pragmatic
account of convertibility he can avoid introducing possible
worlds and other semantic entities. A first attempt to explain
relational in terms of notional can have the following result
when formulated:

(16) $[\,(\exists P)\ (Tr(P,b)$ and John B $\ulcorner$the P is $F\urcorner)\,] + C$[43]

where P is a property that is true (Tr) of an object b, i.e.
it is uniquely specifying and John has the notional belief
($\ulcorner...\urcorner$), while C stands for a non-notional link between John
and the object b (e.g. a direct perceptual contact). So for-
mulated as a weak theory of reference, Schwarz can do without
the thesis that there is a causal relation between the object
b and a given person, John (unless it is C that specifies).
Though this does not exclude rigid reference but the conditions
of rigidity will be pragmatically presupposed: rigid reference
is needed just because there is no way always to specify the
referent relationally. So, notional specification (and notional
belief respectively) is in need of a relational one, and this
is just what Burge claimed. Then, the pragmatic theory of
reference can be explicated within a Gricean framework:

(17) $(\exists A)$ $(\exists P_1)$ $(Tr(P_1, r)$ and S uttered X M-intending
$(\exists P_2)$ $(Tr(P_2,$ the $P_1)$ and A to think $\ulcorner(\exists F)(\exists P_3)$
$(Tr(F_3,$ the $P_2)$ and (i) Corr $(S, X,$ the $P_3)$
and (ii) S thinks $\ulcorner$the P_3 has $F\urcorner))$ or $C_3\urcorner$ or $C_2\urcorner)$
or C_1[44]

where A is an audience, $P_1 \ldots P_n$ and F are predicates, r is
the referent of which the given predicates are true (Tr),
Corr$(S, X,$ the $P_i)$ expresses a correlation between the speaker
(S) and the utterance (X) and a given predicate (P_i), and
M-intention is short for: (i) S intends by X to produce a
response r in A, (ii) S intends A to recognize (i), (iii) S
intends A's fulfilment of (ii) to be part of A's reason for
fulfilling (i). This account is valid even for cases when the
terms (uniquely applying predicates) in which the speaker and
the audience think of a given object do not overlap and though
there is a successful reference. The descriptions with respect
to the speaker and to the audience need not be the same because
referring is reduced to the speaker's intention and to its
recognition by the audience. What is important relative to our
argument is that - in most cases - the speaker is expected to
specify his object relationally during the conversation, but
generally he (and the audience, too) thinks of it in a notional
way. This shows the difference in a logical analysis of epis-
temological attitudes and communication. As our prior aim is
to account for a communicative act, i.e. a pragmatic definition
of "secret", we are - with Schwarz - in favour of a relational

treatment of belief, and because of not having special detectors
to examine the speaker's or the audience's mind we account for
notional specification as a kind of conversational implicature.

4. Secret and the convertibility thesis

What are the consequences of such a pragmatic approach to
the usual semantic problems? How are they related to our argu-
ment? In the following way: the convertibility of relational
into a corresponding notional specification is by no means
always possible. We as speakers cannot make manifest every
time all our notional terms and so we cannot but fall back on
specifying the referent relationally.
This is also a valid counter-argument to the thesis of proper
names as disguised descriptions. Though naturally we cannot
do completely without them, in spite of escaping their abundan-
ce in ordinary conversation with specifying relationally. In
the case of secret it is these uniquely applying predicates
that are highly relevant. What is then the criterion of con-
vertibility? - simply a Richness Condition of many uniquely
defining descriptions pragmatically presupposed. If this con-
dition is not fulfilled, then the utterance containing a
corresponding relational specification will be - according to
Schwarz - unhappy. This unhappiness should be due to the
speaker's uncooperativeness, or irony, or not being sincere,
etc. One possible way to define convertibility more precisely
is to say that there should be at least two loci in a given
dossier D of uniquely applying predicates relative to a given

object, and these two loci are believed (presumed, known, etc.)
by the speaker and the audience respectively. Furthermore, they
should not be trivially instantiated, i.e. they should neither
logically nor epistemologically imply one another; e.g. to go
on to specify relationally the murderer of the president you
have to have at least two clear pieces of evidence (i) his
having been seen by someone at the time of the murder and (ii)
the recognition that the gun, which killed the president, is
his. Then, if you know that he is the person d (i.e. the two
predicates are uniquely true of him), you can make a valid
conversion of $p(d/x)$ into $p(d=x)$. From this it results clearly
that in the case of secret it is just the prohibition of this
conversion which is relevant. The prohibition of converting a
notional belief into a corresponding relational one, i.e. (18)
into (19) and (20) into (21):

> (18) John thinks that the tallest man in Dallas is a
> murderer
>
> (19) John thinks Oswald is a murderer (which is the
> some as "John thinks of Oswald that is a murderer)
>
> (20) John thinks $(\exists x)$ (x is a murderer)
>
> (21) $(\exists x)$ John thinks (x is a murderer).

If in an ordinary conversation it is the speaker's coopera-
tiveness that makes a relative utterance happy, in the case
of secret we mean just that the speaker is intentionally
uncooperative. This realizes a conversation in which certain
pragmatic presuppositions are unfulfilled. This uneasiness,

which is felt when the speaker and the audience specify their object relationally in spite of thinking of it notionally, is conveyed by a condition that Schwarz and others impose on ordinary conversation and we think that it is residual of a semantic claim about these pairs of notions we have been examining for so long - a condition saying that every notional specification is at once relational, too. Though it certainly need not be rigid.[44] We hold that this condition is very reasonable as far as ordinary conversation is concerned; it was just the basic criterion why a semantic account could have been given. But there is a relative difference between a semantic and a pragmatic formulation of the same problem: while in semantics such an assumption appears to be a normative ideal and obscures the point why, on what criteria, a conversion is possible, not considering that these criteria might change from case to case, in pragmatics such a condition reflects an intention of the audience (or the speaker) to go on to specify relationally in spite of not having adequate evidence, in spite of not knowing whether the corresponding descriptions are uniquely defining and even if some of Quine's theses are then violated. To see clearly the interdependence of notional and relational specification we allude to Castañeda's similar wording of the same idea: "the only uniquely defining descriptions believed by the speaker to be had by the subject of the proposition is not made known" and so "shared beliefs may not correspond with respect to (an object) O".[45] But this time

the conclusion is different: the lack of notional specification
makes a proposition opaque for we do not know in what terms A
thinks of B even if the proposition is referentially transpa-
rent. This new sense of "opaque" i.e. "propositionally opaque"
comes to mean just the lack of any "de dicto" reading; while
Burge, Schwarz and others prefer a relational specification,
a "de re" reading to a corresponding notional "de dicto" one,
Castañeda is in favour of the latter so that it makes possible
a relative clarification of the terms we think of concerning
the same individuals. For this reason he is concerned with indi-
rect speech, i.e. with reported propositional attitudes, the
iteration of epistemic contexts. But this does not make any
difference with respect to the speaker and the audience because
the logical relations, the lack of overlapping predicates, the
need for relational specification, etc. - that hold between
them are the sames as those that hold between the reporter and
the person whose propositional attitude is being reported. So
what we have here is that again convertibility appears to be
imposed on ordinary communication and reflects the interrela-
tedness of a conceptual and a non-conceptual approach to the
universe. And we may choose which to prefer between the two
ways with the philosophical background that motivates our
choice. We do not want to judge once and for all the age-old
battle of nominalists and realists; according to us the real
problem is that we cannot describe what a relational ("de re")
specification is for as soon as we are doing this we inevitably

fall back on a notional ("de dicto") definition of the object;
just for this reason a relational specification can never be
made manifest but only presupposed. It is the possibility of
a conversion that matters: the possibility that we are speaking
of the right individuals. In this framework "secret" refers to
the interrelatedness of these two ways of specification, to
the finding of the right individuals figuring in our universe
of discourse in our actual world[46] but at the same time it
alludes to the in-adequetaness of the search.

In connection with the idea that every notional specifi-
cation is also relational, we have to deal with another argu-
ment which seems to contradict our original thesis about the
three modal contexts to be defined as the conditions of "sec-
ret" and which seems to be even counter-intuitive to the con-
vertibility thesis, too. It runs as follows: though a concep-
tual framing of the universe is very important and has a
crucial role in conversation, every such notional specifica-
tion can be embedded in a non-notional one (in other words it
can be indexical). This is the idea of a symmetrical universe.
But it says no more than there is in Burge's paper about the
priority of a "de re" attitude which is strongly based on
perceptual contact. Then if non-notional specification is
irreducible to a notional one, it might seem that the diffe-
rence between our contexts of (1) and (2) evaporates, for in
cases of certain objects, ways of doing something, moments of
time or place such as a hidden sword, a method of making gold,

the time of meeting in a cave, etc. considered as secret, a
notional and a corresponding relational specification cannot
be distinguished (i.e. a direct perceptual contact is strongly
needed). This is reflected in the relative grammatical con-
struction: to express such an idea in many languages a dif-
ferent verb is used, while in English it is the construction
"know + direct Object" that shows the difference in meaning.[47]
This is the case that Russell preferred for his logically
proper names. But "we need not know the individuals when jud-
ging them: it need not be about a particular person" and "even
if judging them we may do it on basis of (descriptive) 'knowing
who/what' not only of 'knowing him' (demonstrative)"[48]; i.e. we
may know what the hidden sword is like, or we may know (guess)
many things about making gold even without knowing that the
prescriptions we know allude to a possible way of making it,
or we may know that the meeting is on Saturday but we may not
know at what hour precisely, or we may know that the cave is in
that forest but not know which path leads to it, etc. So there
can always be certain parts of the given object, which are
thought of as "not known", i.e. as "secret", that can be
adequately or not, conceptualized, i.e. associated with uniquely
applying predicates (even if they may contain a deictic
element). So our original difference between the epistemic
contexts of (1) and (2) can be preserved. This concludes our
argument about the validity of conditions of convertibility.

5. Secret as a system of rules of communication

When defining the epistemological conditions we have seen
that the secret can never be equated with a given state of
affairs or with propositions referring to them (i.e. with
$(\exists x)$ $(x$ killed the president)) but only with their embedding
in a modal context (i.e. $(\exists x) \sim K_a (x$ killed the president));
this means that the secret cannot be considered as an entity
but rather as a system of conditions and rules that govern
the human activity of knowing and communicating. This governing
mechanism will now be analyzed.

The interrelatedness of conditions and rules means that
every definable set of conditions determines certain applicable
rules and conversely, every set of rules pragmatically presup-
poses certain conditions. With our three modal contexts we have
given a semantic framework theory as a normative ideal. But as
we have argued, it is strongly dependent on the total communi-
cative act which turns on the possibility of a pragmatic
definition of convertibility. So it is this pragmatic possibi-
lity, and sometimes constraint, that makes our semantic system,
valid and especially the existential generalization in the
contexts (naturally the use of "to know" adds to this possibi-
lity). If now, we substitute our variables a, b and c with
their corresponding class-terms A, B and C, two different
schemes of communicaton can be described:

(22) ADDRESSER $= A$ or B; MESSAGE $= (\exists x)p\,(d/x)$; ADDRESSEE $= C$

(23) ADDRESSER $= B$; MESSAGE $= (\exists x)p\,(d=x)$; ADDRESSEE $= A$ or C.

The first scheme gives a rule which strengthens the function
of secret within a community because it increases the number
of those who know about the secret but who do not know the
solution to it. This rule converts the elements of C into B.
The second scheme gives a rule which annihilates the function
of secret because it increases the number of those who also
know the solution to it. So this rule converts the elements
of A or C into B. More specific rules can be obtained by
restricting in diverse ways the numbers of the classes, A, B
and C. If $A = o$, $B = 1$, $C = n$, we have a borderline case:
secrets of diaries, private affairs, which are known only by
those whom it concerns. Many say that we can speak about
secret if and only if $B = 2$, while according to others it is
just the rule that prescribes that B should contain two
elements what destroys any possible concept of "secret" because
it violates the basic requirement of "secret": i.e. "Do not
tell it to anyone!" But this approach neglects class A which,
in fact, turns out to be the most important with respect to
the function of secret; so the minimal necessary rule (or set
of rules) should be the following: $A = 1$, $B = 1$, $C = n$, or
perhaps the weaker: $A = 1$, $B = o$, $C = n$. What for us is the
most important is that $A = o$ and $C = o$ cannot be conceded at
the same time. Naturally the relative position of A, B and C
may change from moment to moment: with the starting of commu-
nication individuals may shift from one class into another.
This process may strengthen with the going-on of time, thus
making it possible to define different sequences of triads of

contexts. This means that the contexts are time-related but
only with respect to the individuals they contain in their
scope, i.e. with respect to diverse types of instantiation,
while their logical structure remains the same.

Now we can try to incorporate the pragmatic feature of
convertibility into our system of rules; then the first scheme
would need some reformulation on the basis of the weak theory
of referring explicated by Schwarz; we can say something like
this:

(24) $(\exists A)$ $(\exists P_1)$ $(Tr(P_1,d)$ and S uttered X M-intending

┌$(\exists P_2)$ $(Tr(P_2,$ the $P_1)$ and A to think ┌$(\exists F)(\exists P_3)$

$(Tr(P_3,$ the $P_2)$ and (i) Corr $(S,$ $X,$ the $P_3)$ and

(ii) S does not think ┌the P_3 has F┐)) or C_3┐ or

C_2┐) or C_1.

This means that the relevant information (P_3) is withheld but
not because it is conversationally implicated - as it is the
case with the Richness Condition - for it is the speaker's
intention to make A believe that he (the speaker) does not
himself possess the relevent information; e.g. if "d is the P_i
and N ┌the P_i is a murderer┐" then it should entail "Nec d is x
[x is a murderer]", where "N vs Nec" is a transcript for "notional
vs relational necessity", but the speaker withholds P_i that
should be needed for specifying d relationally (and generalizing
it existentially).[49] The presence of "necessary" naturally
does not influence the validity of our argument: it just
indicates that there is a possible way of explaining necessity
pragmatically as the inevitability of conversion.

The consequence of all this is that during a type of
communication described in (22) and (24) two intentions
collide: while the speaker, in contrast to the ordinary commu-
nicative situation, does not intend A to specify the referent
relationally due to lack of the necessary information, the
audience, wanting to fulfill the requirement imposed on ordinary
communication with respect to A himself, intends to go on to
specify the referent relationally and expects S to intend A
himself to do so and expect S further to communicate the
necessary information needed for a valid conversion. The
collision of the two intentions is then due to the uncoopera-
tiveness of the speaker. While the speaker has changed his
attitude with respect to the ordinary communicative situa-
tion, the audience does not recognize this; but then the
opposite is also possible: the speaker remains faithful to the
ordinary requirements of communication, but the audience does
not do accordingly; he changes his attitude, now, and presuppo-
ses that S has violated another maxim of Grice, namely the maxim
of Quality: A thinks that the necessary information, the uniquely
applying predicate P_i has been in fact communicated by S but it/he
does not define uniquely the referend d. Again two intentions
collide but just in the opposite way as they do in the previous
case. Then, there is the natural situation, when the two inten-
tions correspond; this is called ordinary communication; and
there is the unnatural situation when the two intentions cannot
collide because both the speaker and the audience have changed

their attitudes; this is the case of communication without
mutual understanding so that it can hardly be called commu-
nication anymore, at least with respect to the referents of
what the communication should be about. The pragmatics of
"secret" then describe a situation that is mid-way between a
normal communication and an abnormal one. The other scheme (23)
then corresponds to a normal communicative situation and can
be reformulated as the weak theory of reference.

Concluding our whole argument, we can sum it up in that
secret turns always on some kind of identity being known or not.
Identity statements have long been considered necessary, the
fact of which, in turn, destroyed all attempts to formulate an
epistemic logic just because there could easily be found cases
when the speakers failed to have such ideal knowledge. We have
seen that this failure is due to there being some pragmatic
prohibition of convertibility of "de dicto" into "de re" or
notional into relational. This is what the explication of the
concept of "secret" can amount to. But then there may not be
any logical failure in many semantic systems because the problem
just lies elsewhere. It is in the interrelatedness of our concep-
tual and referential universe.[50] And from this secret can also
gain its force.

6. Secret and literature

In this section we would like to use these ideas in an analysis of narrative texts. The starting point could be the time relatedness of modal contexts (1), (2) and (3). Then one can define on every narrative text a sequence of triads of contexts with respect to the characters that figure in the text. These triads should correspond to states of affairs and each triad could be described with the relative configuration of A, B and C. One basic difficulty would be the selection of a crucial proposition to be embedded in the modal contexts. It seems that any selection would be ambiguous because it would involve a kind of interpretation as the chosen proposition is to be superimposed on the whole semantic structure of the text. At present this is really inevitable. Surely there could be defined other indicators to make valid our selection. But at this present time we do not wish to go into this problem. Let it suffice that now the definition of the triads of contexts is in principle possible. Then there is another aspect that may turn out more relevant; the abstract semantic description of the contexts - as we have stated - depends on some converti- bility thesis but that can be given only within a pragmatic framework. This amounts to the description of the total communicative act. But soon we will see that it is not enough; the convertibility thesis is not important only for an abstract semantics but is perhaps more important for a corresponding logic of actions that defines certain states in the same given

text. What the convertibility thesis can do is to relate to
each other the two kinds of sequence of states, that of modal
contexts and that of actions. This correlation is based on
strategies; to describe it we have to introduce game-theore-
tical elements into our analysis, though they have long been
implied by our approach, which is similar to Hintikka's model
set constructions. Now, the only thing we have to do is to give
a game-theoretical definition of quantifiers: it is Hintikka's
rule (G.E) which runs as follows: "If G is of the form $(\exists x) G_o$,
I choose a member of D, give it a name, say 'n' (if it did
not have one before). The game is continued with respect to
$G_o (n/x)$."[51]
Where D is a domain of individuals, G is a substitution-
instance of a subformula of F. This is called "instantiation".
Naturally nothing guarantees that our choice was correct. We
may not have chosen the proper individual and then we may lose.
So this rule can be correlated with our contexts (1), namely
the situation when different persons, say a, guess who the
murderer could have been without having adequate evidence. If
our instantiation is correct and we win, then we can be corre-
lated with the context of (2). This can be the game-theoretical
interpretation of $(\exists x) p (d/x)$ and $(\exists x) p (d=x)$ on an abstract
semantic level. At the beginning of the game our chosen in-
dividual n need not be d, i.e. we may be wrong, just because
the relevant information is withheld; we have to take a risk;
but though we might violate the convertibility thesis - and

this is what often happens in the cases of secrets - our
strategy, by which we have chosen the individual n, will
determine our strategy, by which we perform an action; i.e. if
we are reasonable beings - and this is really a restriction on
our analysis - our logic of action depends on how we instantiate
into given variables of propositons. Then it means that the
strategy of action will be a function of the strategy of
instantiation. Naturally the chosen individual need not be a
particular individual. Still if it is one, it need not be the
right one with respect to the given contexts; but then there
seems to be no need for possible worlds to explain reference
to non-actual individuals, for it is the multiplicity of
strategies that can explain away the cases of referring to
individuals which do not exist, presupposing that the conver-
tibility thesis has been violated. This completes our tentative
account of cases when possible but non-actual objects are being
referred to within a pragmatic framework; the failure of the
Barcan formula is not due to a semantic paradox (that there
exists a possible but non-actual object) but rather to having
chosen a wrong strategy of instantiation though it is the
end-point of the search, the actual finding of the individual
that decides whether we are wrong. But let us look at an
example. It is taken from a well-known criminal story but we
think that this does not imply any restriction on the applica-
bility of the theory. So, we are in the last but one scene of
"Ten Little Niggers"; there are only two still living, a man

and a woman.

The logic of action prescribes that the man should shoot the woman and then commit suicide. And he does so accordingly. But in the film based on the book he does not shoot. What are the differences and how can we account for his actions? The problem can be formulated as follows: in the above described part of the sequence of triads of contexts we have to consider two individuals; the selection of the corresponding proposition seems to be manifest: it is $(\exists x)$ (x killed eight persons), i.e. $(\exists x)p(x)$. If the relative section of the sequence is i, then in the $i-1$-th section both individuals (let them be a_1 and a_2 respectively) belonged to class A. In the i-th section the man (a_1) has moved into class B because he thinks of her as a murderer (a_2). Therefore, he shoots. Then if his strategy, with which he makes the instantiation of x as a_2, is ξ, then his strategy, with which he acts is a function of ξ, i.e. $\phi(\xi)$. Then at the end of the book, in the $i+1$-th section of the sequence, a_1 changes his strategy ξ, and makes another instantiation of x as a_1, i.e. he thinks himself to be the murderer (here we can see how "illogical" someone's conversion into relational specification can be). Then, if his new strategy is η, his other strategy, according to which he should commit suicide, will be a function of it: $\phi(\eta)$. However in the film another thing happens: he does not shoot the woman; but just because his strategy of instantiation of x as a_2 will be substituted by another one, say a strategy ξ, according to

which x should be instantiated as a_n whoever particular person a_n be: then, his strategy not to shoot the woman will be $\phi(\zeta)$. This means that they both remain in class A in the i-th section of the sequence. There is neither a correct nor an incorrect identity of individuals to be presumed. The corresponding game is not played to the end. This short example conveys our idea about the role of secret in narrative texts. As a conclusion we try to give the complete modal contextual analysis of a text, which this time will be a play, namely Racine's Phèdre. Our approach is the same as that described above, though naturally the situation is more complicated with more individuals involved and even with different kinds of secret to be defined. We consider the play well-known and are not going to re-tell its story. We restrict ourselves only to indicating the relevent modal triads and the strategies. A single triad will be called the i-th section of the sequence. If Theseus = = a, Phaedra = b, Hippolytus = c, Aricia = d, Oinone = e, Theramenes = f, Ismene = g, the secret can be defined as the following sentence: Phaedra loves Hippolytus and Hippolytus loves Aricia and Aricia loves Hippolytus; the last conjunct could be ommited because it will not change the course of analysis which, though, would in turn be too complicated (we do not want to deny that it may be as important as the others in the whole structure of the play). Another reason for this can be that within the play the relation of c and d as instantiated in "y loves z" is symmetrical. The formulation

of the above sentence can be something like this: $(\exists x)(\exists y)(\exists z)$

$(x$ loves y and y loves z and z loves $y)$, i.e. $(\exists x)(\exists y)(\exists z)p(x,$

$y, z)$, while its embedding in a modal context would result in:

$(\exists n)(\exists x)(\exists y)(\exists z)(K_n p(b/x, c/y, d/z)$, though there are other

ways to construct it depending on the person's (n) proposi-

tional attitude. Then we postulate that to belong to class b

the given individual n should make all instantiations correctly,

otherwise he will belong to class A or C. Then the three modal

context are the following:

(25) $(\exists i)(\exists x)(\exists y)(\exists z)[K_i p(b/x, c/y, d/z)$ and $\sim K_i p(b=x,$

$c=y, d=z)]$

(26) $(\exists j)(\exists x)(\exists y)(\exists z)[K_j p(b/x, c/y, d/z)$ and $K_j p(b=x,$

$c=y, d=z)]$

(27) $(\exists h)(\exists x)(\exists y)(\exists z) \sim K_h p(b/x, c/y, d/z)$.

An arbitrary section will be S_i, while the whole sequence is

SE. It the first section is S_1, then our analysis will begin

always with S_1-1 section. The relative configuration of each

section will be indicated first, and then the differenc stra-

tegies which are chosen by the individuals i, j and h. Then a

rough scheme of SE of Racine's play can be given as follows:

S_1-1 $A = b, c$

$B = o$

$C = a, d, e, f, n$

Then, b and c COMMUNICATE their instantiation-proposition to

their confidantes, and so there results

S_1 $A = b,\ c,\ e,\ f$

        $B = c$

        $C = a,\ d,\ g$

Then, b COMMUNICATES to c and then, c COMMUNICATES to d their

instantiation-propositions, and so there results

S_2 $A = b,\ e,\ f,\ (g)$

        $B = c,\ d$

        $C = a$

Then, b COMMUNICATES to a the instantiation-proposition

suggested to her by e, so there results

S_3 $A = a,\ b,\ e,\ f,$

        $B = c,\ d$

        $C = o$

Then, if a's strategy to instantiate is ξ, $\phi(\xi)$ is to send

his son away (who dies); if c's strategy to instantiate is ξ,

$\phi(\xi)$ is to obey his father; if d's strategy to instantiate is ξ

(the same as c's, they know the same), $\phi(\xi)$ is also the same:

to go into exile; plus: e COMMUNICATES to b her instantiation-

proposition (suggested by c through a, i.e. there is a chain

of communication), and so there results

S_4 $A = a,\ f,\ (g)$

        $B = b,\ c,\ d,\ e$

        $C = o$

Then, if the strategy of b to instantiate is ξ, the $\psi(\xi)$ is

to commit suicide; but first she COMMUNICATES to a her

instantiation-proposition and so there results

S_5 $A = (f), (g)$

         $B = a, (b), (c), (e)$

         $C = o.$

Naturally this is not the complete analysis of the strategies;
we indicated those which are in close connection with the
semantic strategies of instantiation. There are certain simplifi-
cations in the scheme for we have not defined all modal contexts
with respect to all the possible different configurations of
the elements of A, B and C; it could have been done on the
basis of atomic propositions, i.e. if we had treated every
single communicative act of every individual as a rule for new
triad-construction; but this might have caused useless
complications. The individuals in brackets are either dead in
the section they figure or it is difficult to define their
epistemic contexts at that point of the sequence for there is
no reference about them in the text. Though there are strategies
that are the same as they are dependent on the same ways of
instantiation, there is no reason a priori that the same
strategy of instantiation determines the same strategy of
action for there may be other determinents to be considered.
Now, we only wanted to show one-to-one correlations of stra-
tegies. From the above scheme it is clear that there is no
essential difference between a strategy (and an act, respecti-
vely) of communicating a proposition and a strategy (and an
act) in the strict sense of the word. In the play, though,
there is a turning point when the communicative acts switch

over into a series of "real" acts. But their logic remains
the same, and this much can be the final conclusion: that
the logic of communication and the logic of action are too
interwoven to be treated distinctly in that they both are
functions of semantic strategies of instantiation.

Notes

[1] Their interrelatedness and contrast will be the object of
   our forthcoming analysis; the previous is conceptual, while
   the latter is pragmatic.

[2] James A. H. Murray, Henry Bradley et alii (eds.): The Oxford
   English Dictionary, vol. IX., Clarendon Press, Oxford (1961)
   pp. 357-358.

[3] An item of information is minimal if it informs us about
   the existence of an object, and it is maximal (or adequate)
   if it also accounts for the reasons of its existence.

[4] Cf. Searle (1969) pp. 4-12.

[5] To make a distinction between semantics and pragmatics,
   nowadays, seems to be very problematic; we do not want to
   delineate exactly their proper domain but to indicate some
   relations of semantic terms and their pragmatic applica-
   bility.

[6] In Strawson (1971).

[7] Hintikka (1973) p. 137.

[8] Cf. Merrill (1978).

[9] Cf. Walker (1975).

[10] Cf. McLane (1979).

[11] Merrill (1978) p. 321.

[12] Although we do not want to deny one of the fundamental
theorems of epistemic logic, namely that from "knowing
that p" it follows that "p is true".

[13] Cf. Baldwin (1975).

[14] Hintikka (1973) p. 49.

[15] The concept of end-points of search parallels Rusell's
concept of logically proper names. i.e. it presupposes
the possibility of getting acquainted with the objects
as the referents of the terms.

[16] A "de re" reading corresponds to an existential generali-
zation: cf. Hintikka-Carlson (1979).

[17] Cf. Hughes-Cresswell (1968) pp. 170-188.

[18] Linsky (1971) p. 27.

[19] Cf. Baldwin (1975).

[20] Cf. Plantinga (1974) pp. 248-251.

[21] Cf. Plantinga (1969) and (1974).

[22] Plantinga (1974). p. 30.

[23] Plantinga (1974) p. 26.

[24] Plantinga (1974) p. 63.

[25] These are the views of Hintikka and Smullyan; cf. Plantinga (1974) pp. 231-233.

[26] Plantinga (1969) p. 253.

[27] Cf. Eberle (1974).

[28] Cf. Baldwin (1975) pp. 84-87.

[29] Baldwin (1975) p. 84.

[30] Baldwin (1975) pp. 86-87.

[31] Baldwin (1975) p. 104.

[32] Cf. Burge (1977).

[33] Burge (1977) p. 352.

[34] Burge (1977) p. 353.

[35] Cf. Burge (1977) p. 342.

[36] Cf. Burge (1977) p. 343.

[37] Cf. Burge (1977) p. 344. note 7.

[38] Cf. Burge (1977) p. 352.

[39] Cf. Ray (1980) pp. 441-443.

[40] Cf. Ray (1980) p. 435.

[41] Cf. Schwarz (1979).

[42] Schwarz (1979) p. 185.

[43] Schwarz (1979) p. 6.

[44] Schwarz (1979) p. 48.

[45] Castañeda (1977) p. 173.

[46] Cf. note 15.

[47] Some examples could be: French "savoir" vs "connaître", Italian "sapere" vs "conoscere", Hungarian "tud" vs "ismer".

[48] Cf. Hintikka (1974) Chapter XI.

[49] Cf. Schwarz (1979) p. 184.

[50] In other words, how far the end-point of the search can be foretold semantically.

[51] Cf. Hintikka (1973) p. 100.

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