CHATEAUBRIAND ON THE AMBIGUITY OF COUNTER-FACTUAL SUPPOSITIONS

CLAUDIO PIZZI

Viale Abruzzi, 36
20124 MILANO
ITALY

pizzic@unisi.it

Abstract: In *Logical Forms* Chateaubriand introduces a disambiguation technique that might turn out to be highly useful for analyzing important classes of sentences. In particular, he claims that this technique is relevant for analyzing counterfactual suppositions. In this paper I critically examine this claim and conclude that the ambiguity of counterfactuals is contextual rather than structural.

Key-words: Counterfactual conditional. Allomorph. Structural ambiguity. Chateaubriand.

One of the most stimulating reflections contained in C.'s *Logical Forms* concerns the structural ambiguity of ordinary language sentences and the disambiguation which can be performed with the help of formal languages.

The disambiguation technique introduced by C. might turn out to be highly useful in analyzing important classes of sentences which are not directly treated in *Logical Forms*. I recall for instance that F. Dretske[1] has claimed that causal *relata* are not events but *aspects* of events. Such aspects are expressed not by sentences but by *allomorphs* of sentences. For instance

---

[1] See Dretske, 1975. For a different approach to aspects see Kim, 1977.

(1) The *arid* soil of Mexico caused the slow growth of the plant

(2) The arid soil of *Mexico* caused the slow growth of the plant

are different sentential allomorphs whose emphasized parts express different causally relevant aspects. The method developed by C. might then turn out to be an important tool to clarify the notion of causal relevance, and more generally, the notion of relevance itself.

It seems that the basic intuitions of C.'s theory have not been influenced by the recent development of modal semantics. While contemporary modal logicians maintain that a sentence denotes the class of possibile worlds in which it is true, according to C. what is denoted by a sentence is a *state of affairs*, i.e. an ordered combination of a property (i.e. a set) with objects and/or other properties. The problem focused by C. is that different states of affairs may be denoted by the same sentence, e.g.

(*a*) <set of the relatives of Stuart Mill, Russell>

(*b*) < set of the relatives of Russell, Stuart Mill>

(*c*) <set of the couples of relatives, (Stuart Mill, Russell)>

are states of affairs denoted by the sentence "Russell was a relative of Stuart Mill". A one-one correspondence actually exists not between states of affairs and sentences but between states of affairs and sentential allomorphs of the sentences. To use C's notation, the allomorphs related to states (*a*), (*b*), (*c*) have the logical forms represented respectively by $[Rxb](a)$, $[Rxa](b)$ and $[Rxy](a, b)$, even if many other allomorphs, as C. shows, may be worked out combinatorially.

In the given example all terms are denoting terms. C. writes:

> ... it follows that if under any of these different interpretations of its logical structure the sentence denotes a state of affairs, then it denotes a state of affairs under all the interpretations (...). Hence, as long as one

> works under a convention that all singular and general terms denote something, and one is only concerned with the question of whether or not sentences are true (i.e., denote *some* state of affairs) it is not necessary to distinguish the different interpretations of the logical structure. (*LF*, pp. 63-4)

Things are different when the sentence includes non-denoting terms. Here some allomorphs turns out to be denoting, while others are not. C's example is

(3)   John reasons like Sherlock Holmes

which may be interpreted in various ways, among which

(3.1) [*x* reasons as Sherlock Holmes] (John)

(3.2) [*x* reasons as *y*] (John, Sherlock Holmes)

(3.3) [John reasons as *x*] (Sherlock Holmes)

According to C. (3.1) is true or false, while (3.2) and (3.3) lack a truth-value, and the reason is that a predicate such as "*x* reasons as Sherlock Holmes" may denote a set, while Sherlock Holmes does not.

I am not sure that this strategy is unproblematic considering such identities as "Holmes = Holmes" or as "Homerus = the author of *Batracomiomachia*". The former sentence should be universally true but has allomorphs such as [*x* = Holmes] (Holmes), which has a not-denoting term in subject position just as (3.3). In the latter example it is not clear that "Homerus" is a non-denoting term, so perhaps is not clear whether the sentence has a truth-value or not.

However, the question of non-denoting terms is not my concern in this note. What I found highly interesting in this part of the book is an important footnote of the text (n. 23, p. 73), which unfortunately C.

has not developed in extended form. C. claims that the distinctions among allomorphs are relevant not only for the problem of non-denoting terms but also for other cases of ambiguity, such as the one devisable in the case of counterfactual suppositions.

In this connection, C. quotes an example which has been made popular by Quine (1950, pp. 14-15):

> (4*a*) If Bizet and Verdi had been compatriots, Bizet would have been Italian

> (4*b*) If Bizet and Verdi had been compatriots, Verdi would have been French

The appearance is that (4*a*) and (4*b*) singularly taken are both true, but then also the following conditional should be true:

> (4*c*) If Bizet and Verdi had been compatriots, Bizet would have been Italian and Verdi would have been French

which seems to be a contradiction.[2]

Following Goodman[3], C. considers (4*a*) and (4*b*) both false. But in his opinion the following two counterfactuals are true:

---

[2] I would like to call counterfactuals of the Bizet-Verdi class *Gestalt counterfactuals* by analogy with the Gestalt effect. In a well-made Gestalt image one can "see" at different times two distinct figures, but cannot see two distinct figures at the same time.

[3] I am not sure that C. is a follower of the consequentialist (i.e., Goodmanian) view of conditionals. However (4*a*) and (4*b*) are both false also with respect to D.K. Lewis' semantics for conditionals: the most similar possible worlds in which the two musicians are compatriots are not such that "Bizet is Italian" is true in every one of them or "Verdi is French" is true in every one of them.

(5*a*) If Bizet had been a compatriot of Verdi, Bizet would have been Italian ($A \rightarrow B$)

(5*b*) If Verdi had been a compatriot of Bizet, Verdi would have been French ($A' \rightarrow V$)

The difference between (4*a*) and (5*a*) is that the form of (4*a*) is [*x* is a compatriot of *y*] (Bizet, Verdi), while the form of (5*a*) is [*x* is a compatriot of Verdi] (Bizet).

I do not want to discuss here the reasons why C. finds that (5*a*) is true while (4*a*) is false. The problem I see is that nobody can deny the following two points:

(*i*) that among the meaning postulates of ordinary language we have the implication

(MP1) *x* is a compatriot of *y* $\supset$ *y* is a compatriot of *x*

so also the equivalence

(MP2) (*x* is a compatriot of *y* & *y* is a compatriot of *x*) $\equiv$ *x* is a compatriot of *y*

(*ii*) that the following modal sentence is true (where $\square$ is a symbol for necessity)

($\square$) $\square$((*x* is a compatriot of *y* & *y* is a compatriot of *x*) $\equiv$ *x* is a compatriot of *y*).

Let us look at (MP2), which is a thesis of any system extended with meaning postulates. It is clear that if C. accepts (5*a*) but not (4*a*), he has to refuse replacement of proved material equivalents in the

antecedents of conditionals. This position has a support in so-called *semi classical* conditional logics, as D. Nute's system **W**[4]. The restriction on replacement has been introduced by Nute in order to save a principle which most philosophers found uncontroversial, i.e., Simplification of Disjunctive Antecedents.

Some positive or negative properties which C. should accept for $\rightarrow$ may be devised as a consequence of his different evaluation of (4*a*) and (5*a*).

Let us suppose for instance that the logic of $\rightarrow$ contains Leibniz's *Theorema Praeclarum,* i.e., a statement which yields the rule:

(TP) $(A \rightarrow B) \& (A' \rightarrow V) \vdash A \& A' \rightarrow B \& V$.

If C. maintains that (5*a*) and (5*b*) are both true – so that $(A \rightarrow B) \& (A' \rightarrow V)$ is true – then by (TP) he has to admit that $A \& A' \rightarrow B \& V$ is also true, which means again to run into a contradictory conditional. So it is clear what follows:

(°) The logic of $\rightarrow$ does not admit (TP).

Arguments of the same kind may be repeated for other logical laws. Let us suppose that a property of $\rightarrow$ is Monotonicity, which means having the rule

(M) $A \rightarrow B \vdash A \& A' \rightarrow B$.

In such a case the truth of $A \rightarrow B$ (i.e. of (5*a*)) implies the truth of

(BV) $A \& A' \rightarrow B$

---

[4] See Nute, 1980.

and also of

(VB) A & A' $\rightarrow$ V

so that we are again faced with a couple of true conditionals with incompatible consequents, as in Quine's example.

In order to avoid the difficulty, we should block the use of (M), i.e., to conclude:

(°°) The logic of $\rightarrow$ does not admit (M).

This restriction should not be a surprise since the non-monotonicity of $\rightarrow$ is a well-known property of the logic of conditionals, both in Stalnaker-Lewis logics and, for different reasons, in the so-called modal-connexive logics[5].

A third remark is as follows. Among the truth functional theorems we have $((A$ & A') $\vee$ $(A$ & $\neg A$')) $\supset$ A, so *a fortiori* $((A$ & A') $\vee$ $(A$ & $\neg A$')) $\rightarrow$ A[6]. Let us now suppose, as before, that A $\rightarrow$ B is true. Then by Transitivity of $\rightarrow$ we have $((A$ & A') $\vee$ $(A$ & $\neg A$')) $\rightarrow$ B. But $(A$ & A') $\rightarrow$ $((A$ & A') $\vee$ $(A$ & $\neg A$')) should also be a thesis, so again by Transitivity the truth of A $\rightarrow$ B should imply the truth of A & A' $\rightarrow$ B, as in the preceding case. So another result concerning $\rightarrow$ should be the following:

(°°°) the logic of $\rightarrow$ does not admit Transitivity.

As a matter of fact, a well known feature of Stalnaker-Lewis conditionals is that they are not generally transitive. But no property of conditionals has been more controversial than Transitivity. Such

---

[5] I tried to give a treatment of the question in both kinds of logics in my 1992.

[6] I am taking for granted that if A logically implies B, then A conditionally implies B. See axiom (a^{**}) below.

authors as J. L. Mackie, J. Lowe and C. Wright have strongly refused to accept the thesis that conditionals are non-transitive[7].

Points (°), (°°), (°°°) strongly support the idea that the logic of conditionals which C. has in mind belongs to the family of Stalnaker-Lewis logics. But this does not mean that the conclusion he wants to avoid is excluded.

In fact among the axioms of Lewis' system **C1** we find the following two:

(a*) $((A \rightarrow C) \ \& \ (C \rightarrow A)) \supset ((A \rightarrow B) \supset (C \rightarrow B))$

(a**) $\Box(A \supset B) \supset (A \rightarrow B)$.

Let us recall that we assumed at the beginning the truth of $\Box(A \ \& \ A' \equiv A)$ (see ($\Box$)). By (a**) and standard calculus we have $\Box(A \ \& \ A' \equiv A) \supset ((A \ \& \ A' \rightarrow A) \ \& \ (A \rightarrow A \ \& \ A'))$. So ($\Box$) implies, by Transitivity of $\supset$, $(A \ \& \ A' \rightarrow A) \ \& \ (A \rightarrow A \ \& \ A'')$, and by (a*) this implies $(A \rightarrow B) \supset (A \ \& \ A' \rightarrow B)$. So we have again a conclusion that is counterintuitive.

As a final remark, I would like to suggest that counterfactuals are indeed infected by ambiguity, but this ambiguity is not structural but contextual. In other words what is essentially ambiguous in them is not so much the logical structure of the counterfactual supposition but the revision of the background knowledge which the supposition itself requires.

The strategy which C. proposes would be problematic if applied to another example suggested by Quine:

> (6a) If Caesar had been commander in Vietnam he would have used the atomic bomb

---

[7] For some discussion on this point see my 1993.

(6*b*) If Caesar had been commander in Vietnam he would have used the catapults

Here one could observe that the conflict between the consequents is not strictly logic: it is difficult to imagine a situation in which the catapults and the atomic bombs are used in the same war theater, even if such a situation could be created on the set of a comic film. But one should also remark that, differently form the Bizet-Verdi case, the two conditionals do not appear exactly equiplausible: the first seems a little more plausible than the second since the mentioned Vietnam war did not take place in ancient times, but has been fought in contemporary times with contemporary weapons.

It seems to me that the basic problem of counterfactuals is that not only in the given examples but in *every* counterfactual we have to consider at least two legitimate consequents which are incompatible on the basis of the same supposition. Let us take for instance Goodman's paradigmatic example:

(7) If match *m* had been scratched, it would have lit.

In the background set of pieces of information we have the following propositions:

(8) All the matches in the same conditions of match *m* light when scratched.

(9) Match *m* has not been scratched.

(10) Match *m* has not lit.

Thus we cannot deny that a legitimate counterfactual based on the supposition that match *m* has been scratched, due to (10), is also

(11) If match *m* had been scratched, it would be an example of a
     match which has been scratched and has not lit.

(7) and (11) are jointly untenable counterfactuals. But, differing
from the Bizet-Verdi case, here we have no doubt about the fact that
one of them (i.e., (7)) is clearly more plausible than the other and
dominant over it. The reason why (7) is dominant is simply that (7)
preserves the truth of the law expressed by (8), while the consequent of
(11) implies the rejection of such a law. Since a law has an information
content which is clearly higher than the information content of
propositions about single facts, every rational subject should agree that
laws should be always preserved in the revision of background
knowledge required by any contrary-to-fact supposition. In the Bizet-
Verdi cases this kind of rational choice cannot be applied, and the
rational subject is put in the puzzling situation of Buridan's ass: a
situation in which he can do nothing but say either that the two
conditionals are false or that they lack a determinate truth-value.

REFERENCES

DRETSKE, F. "The Content of Knowledge". In: B. Freed *et al.* (eds.)
     Forms of Representation. Amsterdam, pp. 77-93, 1975.

KIM, J. "Causation, Emphasis and Events". *Midwest Studies in Philosophy*,
     pp. 100-103, 1977.

NUTE, D. *Topics in Conditional Logic.* Dordrecht: Reidel, 1980.

PIZZI, C. "Varieties of Non-Monotonic Conditionals". In: A. Carsetti,
     M. Mondadori, G. Sandri (eds.) *Semantica, Complessità e Linguaggio
     Naturale.* Bologna: CLUEB, pp. 59-75, 1992.

————. "Causality and the Transitivity of Counterfactuals". *O Que Nos
     Faz Pensar*, 7, pp. 89-103, 1993.

QUINE, W. *Methods of Logic.* Cambridge, MA: Harvard University
     Press, 1950.