CDD: 160

CHATEAUBRIAND ON THE SLINGSHOT ARGUMENTS

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Abstract: The purpose of this paper is to discuss Chateaubriand's criticism of the so-called slingshot arguments, particularly of those versions proposed by Church (1956) and by Gödel (1944). I concentrate on two critical points made by Chateaubriand, and argue that they are not decisive against these versions of the slingshot. I also discuss Chateaubriand's hybrid theory of definite descriptions and argue that, despite its intrinsic interest, it cannot avoid the conclusion of the slingshot.

Key-words: Chateaubriand. Church. Gödel. Slingshot. Definite descriptions.

Chateaubriand discusses extensively the so-called slingshot arguments in Chapter four of his (2001), particularly those proposed by Church and by Gödel. He points out several problems that he sees in all versions of it, and proposes a way of avoiding its conclusion (which he sees as implausible). In these notes, I shall briefly review Church's and Gödel's arguments, and then say something about three of Chateaubriand's objections that seem to me to capture most of his restrictions against the slingshot.

Church (1956, pp. 24-5) formulates the best-known version of the slingshot. The argument is based on the following two principles:

(R) When in a complex name we replace a constituent name by another one with the same reference, the reference of the complex is not changed.

(S) Synonymous sentences have the same reference.

The argument goes as follows. Consider the sentences (in which the relevant definite descriptions are underlined):

(C1) Sir Walter Scott is the author of *Waverley*
(C2) Sir Walter Scott is the man who wrote twenty-nine Waverly novels altogether (R)
(C3) Twenty-nine is the number, such that Sir Walter Scott is the man who wrote that many Waverly novels altogether (S)
(C4) Twenty-nine is the number of counties in Utah (R)

(The letters 'R' or 'S' after each sentence indicate the principle by which it is said to have the same reference as the previous one.) According to R, C1 and C2 must have the same reference, since the latter results from the former by replacing a description ('the author of Waverley') by another one ('the man who wrote twenty-nine Waverly novels altogether') with the same reference (i.e., Scott). The same applies to C3 and C4, since we obtain the latter from the replacement in C3 of a description by another one that refers to the same object (the number twenty-nine). Now, according to Church, C2 and C3 are synonymous or at least very close in meaning, so that by S we may regard them as having the same reference. It follows that C1 and C4 must have the same reference. But the only thing that they have in common is their truth-value (they are both true), and it seems natural, according to Church,

to identify their common reference with this truth-value. The same reasoning would apply to false sentences[1].

Gödel (1944, p. 450) suggests a similar argument for establishing the thesis that all true sentences have the same reference. It is based on the following principles:

(D) Definite descriptions of the form '*(ιx)(F(x)*' denote the unique object that falls under *Fx* (if there is one).

(R) When in a complex name we replace a constituent name by another one with the same reference, the reference of the former is not changed.

(A) Every true sentence has an equivalent form that "speaks about something", i.e., an equivalent of the form '*F(a)*'.

(B) The sentences '*F(a)*' and '*a=(ιx)(F(x) & x=a)*' denote the same thing.

(C) For any two objects *a* and *b*, there is a true sentence of the form '*H(a,b)*' (e.g., '*a=b*' or '*a≠b*').

The argument goes as follows: let *P* and *Q* be any two true sentences, and consider the sequence of sentences

(G1) *P*
(G2) *F(a)* (A)
(G3) *a=(ιx)(x=a* & *F(x))* (B)

[1] Although he does not mention it, Church is implicitly assuming Principle D (concerning definite descriptions), which is made explicit in Gödel's argument below.

(G4) $a=(\iota x)(x=a \,\&\, H(x,b))$ (R)
(G5) $H(a,b)$ (B)
(G6) Q (new sentence)
(G7) $G(b)$ (A)
(G8) $b=(\iota x)(x=b \,\&\, G(x))$ (B)
(G9) $b=(\iota x)(x=b \,\&\, H(a,x))$ (R)
(G10) $H(a,b)$ (B).

(Here, again, the letter after each sentence indicates the principle by which it is said to be co-referential with the sentence on the previous line.) It follows that both *P* and *Q* (G1 and G6, respectively) have the same reference as '*H(a,b)*' (G5 and G10), and hence have the same reference. But the only thing that they have in common is their truth-value. An analogous argument can be built for false sentences[2].

Chateaubriand's first main objection is based on the claim that we can only consider two sentences as synonymous if it is clear what they are about. Presumably, they must be about the same thing. And this seems to threaten Church's argument since C1 and C2 seem to be about Scott, while C3 seems to be about the number twenty-nine. As we go along Church's argument, we see a change of *aboutness*, so that C4 is about something completely different than C1. But if this is so, one could hardly see them as co-referential. In other words, since the focus of the different sentences in Church's argument is not clear, we do not know what each one of them is about, and hence cannot infer that they are co-referential[3]. As I see it, however, it is not clear that a requirement of an absolute notion of *aboutness* makes much sense. If we say 'John is one of Jesus' twelve apostles', what is the sentence *about*? Is it about

[2] Actually, there are some complications for the case of false sentences, which I shall not discuss here.

[3] A similar complaint can be found in Barwise and Perry (1975) and Perry (2000).

John? Or Jesus? Or the number twelve? Or the concept *apostle*? Or the second-order property *being one of John's properties*? There seems to be no point in isolating a particular entity as *the* one the sentence is *about*. Notice that the point here is not that natural language is vague or unclear, for we have the same multiple possibilities for sentences in formal systems. As Frege points out, a thought may be analyzed in different ways, and no one of many possible analyses can claim priority over the others. That is to say, a sentence *per se* is not about one thing or another, but only a sentence combined with a particular way of analyzing it. Hence, I do not see that Chateaubriand's claim can be of much force against Church or Gödel, since it requires something that the notion of synonymy cannot possibly have. He is certainly right in complaining that Church's notion of synonymy remains unclear; but I do not think that a clarification of it would necessarily lead to a unique aboutness for each sentence[4].

Chateaubriand's second main point challenges the aprioricity of Gödel's Principle B, which says that the sentences '*F(a)*' and '*a=(ιx)(F(x)* & *x=a)*' refer to the same thing. His point is that, despite appearances, the truth of this principle might depend on contingencies. He takes as example the sentence 'Quine is a philosopher' which, according to Principle B, is equivalent to 'Quine=(*ιx*)(*x* is a philosopher & *x*=Quine)'. Now the first sentence can be analyzed as '(*λx*)(*x* is a philosopher)(Quine)' while the second can be analyzed as '(*λx*)(*x* is a philosopher & Quine=Quine)(Quine)'. But, according to him, the properties *being a philosopher* and *being a philosopher and Quine=Quine* are extensionally equivalent only under the assumption that Quine exists. If Quine exists, 'Quine=Quine' is a logical truth, and both properties are extensionally equivalent. But, according to Chateaubriand, if Quine does not exist,

[4] Gödel assumes a much weaker claim about synonymy than Church. For the former does not assume that any synonymous sentences are co-referential, but only that two sentences of the form '*F(a)*' and '*a=(ιx)(F(x)* & *x=a)*' are.

"the natural thing to say is that ['Quine=Quine'] isn't true (nor false)" (2001, p. 151)[5]. In other words, the equivalence of both properties, and hence of the two original sentences, would depend on Quine's existence, which is contingent. This objection seems to be based on a broader philosophical perspective that does not recognize as a logical truth sentences containing empty or non-referential names like, e.g., 'Santa Claus=Santa Claus' or 'Santa Claus is old or Santa Claus is not old'. But Chateaubriand's is not the only possible view here. One can actually reconcile the possibility of truth-value gaps in sentences with the preservation of the logical truth of sentences that look like logical truths despite having non-referential terms as we have in 'Santa Claus is old or Santa Claus is not old'. I have in mind here something resembling the so-called supervaluationist approach to vague languages, or languages containing truth-value gaps. From this perspective, 'Quine=Quine' is a super-truth, independently of Quine's contingent existence[6].

Considerations about the slingshot naturally lead to a reflection about definite descriptions, and one of the most interesting points of Chateaubriand's analysis of the slingshot is his proposal of an alternative approach to definite descriptions that appears to evade its consequence[7]. His idea is to combine Russell's and Frege's insights about definite

[5] The second property would not even, presumably, be a property under this perspective, since its expression includes a sentence without truth-value.

[6] See van Fraassen (1966) and Fine (1975) for an outline of the super-valuationist approach. This approach can reconcile some of our intuitions about logical truths with the possibility of truth-value gaps in defective languages. Roughly speaking, supervaluationism considers all possible ways of loading the vague (or empty) name with a definite reference, and then asks for the truth-value of the sentence in all these possible specifications. A sentence that comes out true in all possible specifications of its reference is then called "super-true". It turns out that all logical truths are super-truths, even if they involve names that do not refer. In this perspective, 'Quine=Quine' is a super-truth, hence a logical truth.

[7] This approach is further developed in Chateaubriand (2002).

descriptions into one single theory in which descriptions are treated in the Fregean manner if they occur in the subject position of sentences, and in the Russellian manner if they occur in the predicate position. The effect of this hybrid theory on the slingshot is presumably the same as Russell's theory: Principle R cannot be applied to C1 or C3 (or G3 or G8) because the relevant descriptions are in the predicate position, and hence they must be treated *à la* Russell (i.e., they disappear under analysis). One problem I see with this solution is that the hybrid theory does not seem to have a strong motivation except evading the slingshot[8]. If this is so, there is a lingering impression that it is somehow *ad hoc*, especially designed to evade the conclusion of the argument, but not supported by independent intuitions, like Russell's or Frege's "pure" theories are[9]. But even leaving this aside, there seems to be a further

[8] In the following passage, Chateaubriand makes it clear that the original motivation for formulating the hybrid theory was the attempt to avoid the conclusion of the slingshot:

> I considered denying every one of the principles involved in Gödel's argument, but I couldn't get over their intrinsic plausibility. And I couldn't get over the intrinsic plausibility of the argument itself-except for the conclusion. At the end, it was one of Gödel's remarks that gave me the main clue to the answer […] So I worried about Russell's theory of descriptions as well, and, eventually, got to the ideas [the hybrid theory] presented in the last chapter. (2001, pp. 150-1)

[9] To be fair to Chateaubriand, he actually does try to motivate this thesis independently of the slingshot in chapter three of his book. I do not have space here to discuss his many considerations in that chapter, but I do not find them in general compelling. In his (2002), he characterizes Russell's basic intuition as being the one of analyzing (i) *'a* is the *F'* as (ii) '*a* is *F* and nothing else is'. He agrees that (ii) is the natural analysis of (i), but not that the natural analysis of (iii) 'The *F* is *G*' is (iv) '$\exists x$(*x* is *F* and nothing other than *x* is *F* and *x* is *G)*'. That is to say, he sees Russell's basic insight as being one about descriptions when they occur in the predicate position. But it is not clear why he thinks that Russell's ideas are primarily meant as a theory about descriptions in this particular

problem for Chateaubriand's solution. The hybrid theory supposedly blocks the slingshot by treating descriptions in the subject position *à la* Frege, and descriptions in the predicate position *à la* Russell. But it does not seem to be essential for the argument that the relevant descriptions occur as grammatical predicates, and we could perfectly well take the "mirror-image" of it so that the relevant descriptions all occur in the subject position, as in

(C1") The author of *Waverley* is Sir Walter Scott.
(C2") The man who wrote twenty-nine Waverly novels altogether is Sir Walter Scott … and so on.

We can do this because all sentences here are identities. In this case, we would be back to the same slingshot, and the hybrid theory of descriptions would be of no help to block its conclusion. (Basically the same applies for Gödel's slingshot.) It seems that, in order to block the argument, we still need something like Russell's "pure" theory, which eliminates the descriptions in the subject positions as well. What this second problem shows, I think, is not that the hybrid theory is of no intrinsic interest at all, but rather that it might not be strong enough to block the slingshot.

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position. And this is so especially if we remember that the cases that famously motivate Russell are those like 'The present King of France is bald'. Neither is it clear the reasons for (iv) not being a natural analysis of (iii), except the (unjustified) claim that descriptions in the predicate position work differently from those in the subject position.

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