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Refutation of Searle's Argument for the Existence of Universals

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REFUTATION OF SEARLE'S ARGUMENT FOR THE EXISTENCE OF UNIVERSALS

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Abstract

SEARLE (1969) proposes an argument in order to prove the *existence of universals* and thereby solve the problem of universals: From every meaningful general term $P(x)$ follows a tautology $\forall x\,[P(x) \vee \neg P(x)]$, which entails the existence of the corresponding universal P. To be *convincing*, this argument for existence must be valid, it must presume true premises and it must be free of any informal fallacy. First, the *validity* of the argument for existence in its non-modal interpretation will be proven with the help of the formal deductive system F. Secondly, it will be shown that a self-contradictory tautology concept is employed, which renders the premises meaningless. Consequently, the inconsistency will be emended through redefinition and the argument's ensuing *correctness* will be demonstrated. Finally, it will be shown that the argument for existence presupposes the existence of universals in its premise and hence *begs the question*.

November 27, 2009

Contents

1 INTRODUCTION

1.1 Searle's Argument for Existence cum Linguistic Conception...

How is it to be explained that a ripe tomato and a fire engine are both red? Is there a common property, a universal, which the tomato and the fire engine share? According to REICHER (2005, p. 10f.), the *problem of universals* boils down to two primary questions: First, do universals exist or are there only particulars? And secondly, what is the ontological status of these universals, or respectively, particulars?[1]

problem of universals

SEARLE (1969, p. 104) presents the following condensed argument[2] (it shall be referred to as '*argument for existence*') in order to answer the first question and thereby prove the existence of universals:

argument for existence

> "In short, for the sort of realism or platonism that is here under discussion, the statement that a given universal exists is derivable from the assertion that the corresponding general term is meaningful. Any meaningful general term can generate tautologies, e.g. 'either something is bald or nothing is bald' and from such tautologies, the existence of the corresponding universal can be derived."

Subsequently, SEARLE asserts that the argument for existence entails the answer to the second question regarding the ontological status of universals. Since the existence of universals follows from tautologies and tautologies are linguistic entities, the ontological status of universals must also be *linguistic*, he argues. Therefore, universals "do not lie in the world" (SEARLE 1969, p. 115). Hence, SEARLE (1969, p. 104) identifies the problem of universals as a "pseudodispute", for realists and nominalists cannot disagree. If a certain predicate $F(x)$ is meaningful, then the existence of a universal F follows. This is due to the fact that the existence of a universal F requires nothing more than $F(x)$'s meaningfulness.

linguistic conception

1.2 ...as the Solution of the Problem of Universals?

SEARLE's linguistic conception concerning the ontological status of universals has been criticized. TRAPP (1976, p. 168f.) objects that "SEARLE trivializes the problem of universals" by employing an ill-conceived concept of 'universal'.[3] VISION (1970, p. 155ff.) demonstrates the inconsistency of the linguistic

SEARLE's critics

[1] Although the two questions are closely linked they are not identical, otherwise it would be impossible to account for different versions of realism, e.g. Platonism or Aristotelism (MASON 2005, p. 933), or respectively, nominalism.

[2] Although this sounds like metalinguistic *nominalism* SEARLE explicitly presents an argument supporting *realism*. Cf. LOUX (1998, p. 19-89) for a concise introduction to the problem of universals.

[3] To be more specific, TRAPP (1976, p. 169), on the one hand, consents to the argument concerning the meaningfulness of predicates. On the other hand, he objects to the conjecture that predicates name universals. In his opinion, the question of the ontological status of universals must be treated independently from the question of how a given language my *mimic* universals.

conception and points out its failure to distinguish universals from particulars. In contrast to TRAPP and VISION, I will set aside the linguistic conception and focus on SEARLE's *argument for existence*. So far, the argument has not been exposed to a thorough analysis. In this paper, I aim to answer the question of whether SEARLE manages to prove the existence of universals. In addition, I will propose some modifications in order to enhance the argument.

In order to be convincing the argument for existence must be *correct*, viz. valid with true premises (BARIWSE/ETCHEMENDY 2003, p. 140f. and SALMON 1973, p. 41ff.). Furthermore, it must not instantiate an *informal fallacy* (ROSENBERG 1986, p. 88-111).

Thus, as a first step, the *validity* of the argument needs to be reviewed. I will argue against SEARLE that validity can be proven only through an analysis of the logical form in a formal deductive system. Accordingly, the argument will be formalized, and the non-modal interpretation of the argument will be proven to be valid in system F. *validity*

In a next step, the *correctness* and hence the truth of the premises will be evaluated. I will demonstrate that SEARLE's definition of the concept 'tautology' is inconsistent. Subsequently, all premises employing the concept will be false. As a result, I will improve the argument by offering a consistent definition. *correctness*

Finally, I will explain why the argument for existence does not prove the existence of universals, even though it might be correct. For this purpose I will show that the existence of universals is already assumed in the premises. Therefore, the argument will be identified as *begging the question*. *petitio principii*

2 IS THE ARGUMENT FOR EXISTENCE VALID?

In this chapter I will point out why SEARLE is not able to prove the validity of the argument for existence. Furthermore, I will argue for the need to formalize the argument. Finally, I will translate the argument into an adequate logical language and prove its validity in the formal deductive system F.

2.1 Defending the Formalization

SEARLE (1969, p. 105) lists several examples as instances of the argument for existence and argues that they are "specimens of valid reasoning conducted in ordinary English." Let us take a closer look at one of SEARLE's examples: from a given meaningful general term - say 'something is intelligent' - a tautology like 'Sam and Bob are both intelligent or not intelligent' is derived. From such a tautology it may be inferred that there is at least one common property that both Sam and Bob share or lack. Accordingly, there *exists* a property which both Sam and Bob share or lack. Therefore, the existence of this property - viz. the universal 'intelligence' - is proven. *"valid reasoning conducted in ordinary English"*

SEARLE does not provide any other reasons to prove the validity of the argument. Hence, it must be concluded that he takes his examples of valid reasoning conducted in ordinary English to be sufficient evidence in themselves. Now, there are two possible meanings of the concept 'valid reasoning': it either denotes a *valid logical consequence* or an *illocutionary act*. Applied to the argument, it follows from each alternative: 1. The argument has not been proven valid. 2. To be proven valid, the argument requires formalization.

logical consequence vs. illocutionary act

2.1.1 'Valid Reasoning' as Logical Consequence

Let us assume that the expression 'valid reasoning' denotes the structure of *valid logical consequence*. Q is a valid logical consequence of P if it is impossible for P to be true while Q is false. That Q is a valid logical consequence of P cannot be demonstrated by a series of examples $E_1 \ldots E_n$, for E_{n+1} could be a counterexample. In order to prove the assumption that Q is entailed by P, complete induction or a proof in a complete and correct deductive system is required. In this case, SEARLE still owes us to prove that his argument is valid. On the one hand, his examples are certainly not designed to serve as an attempt for complete induction. On the other hand, a proof in a deductive system necessitates the *formalization* of the argument, which is nowhere to be found. The formalization is mandatory because a deductive system is based on the analysis of the logical form of an argument. The logical form needs to be made explicit by formalization since the *logical form* may differ from the *grammatical form* (BECKERMANN 1997, p. 44-51).

formalization required

logical form vs. grammatical form

2.1.2 'Valid Reasoning' as Illocutionary Act

It could be argued, of course, that 'valid reasoning' in ordinary English by no means denotes a simple logical consequence, but rather successful and non-defective performances (cf. SEARLE 1969, p. 54ff.) of the illocutionary act of reasoning. At first glance, it seems that this move might enable SEARLE to evade proving the validity of the logical consequence in question, namely the argument for existence. An analysis of the illocutionary act of reasoning, however, will elucidate its *internal dependence* on logical consequence and therefore establish the need of adequate proof.

proof evaded?

In order to analyze the illocutionary act of reasoning, I propose to think of reasoning as a *special case* of the illocutionary act of asserting. A successful and non-defective performance of an illocutionary act of reasoning shall count as assurance that a proposition p follows from a set of propositions $\mathsf{A} = \{p_1, p_2, \ldots, p_n\}$ whereas the set of propositions A equally counts as the set of premises $(\forall x\, [x \in \mathsf{A} \rightarrow \text{Premise}(x)).$[4] If p is entailed by A, then we can express this relation through the material conditional $\mathsf{A} \rightarrow p$. Moreover, $\mathsf{A} \rightarrow p$ is a complex proposition that I will call p_c. If p_c is true, then p must be true, since A is qua set of premises true by definition. Consequently, if p_c is true, p

reasoning as special case of asserting

[4] The illocutionary act of reasoning is modelled on KANT's and FREGE's definition of 'inferring'. According to KANT (1977, p. 545), an inference is the deduction of a judgement from another. FREGE (1879, p. 3) defines 'inferring' as asserting a truth (a conclusion) by means of representing other truths (the premises) as justification whilst obeying the laws of logic.

is indeed a valid logical consequence of A.[5] Therefore, an illocutionary act of reasoning counts as supporting the truth of p_c, which is formally equivalent to the illocutionary act of asserting (SEARLE, p. 66):

> "[Asserting] counts as an undertaking to the effect that p represents an actual state of affairs."

The following table shall further clarify my analysis:

Rule	Asserting	Reasoning
Propositional	Any proposition p.	A proposition p_c, which is constituted by any proposition $\mathsf{A} \rightarrow p$.
Preparatory	1. S has evidence for the truth of p. 2. It is not obvious to both S and H that H knows p.	1. S has evidence for the truth of p_c, viz. the validity of $\mathsf{A} \rightarrow p$. 2. It is not obvious to both S and H that H knows p_c.
Sincerity	S believes p.	S believes p_c.
Essential	Counts as an undertaking to the effect that p is true.	Counts as an undertaking to the effect that p_c is true, viz. $\mathsf{A} \rightarrow p$ is valid.

Table 1: Reasoning as Special Case of 'Asserting'[6]

proof only sufficient evidence

The preparatory rule states that S must provide *evidence* for the truth of p_c. Since p_c is constituted by $\mathsf{A} \rightarrow p$, the evidence in question needs to make sure that p is in fact entailed by A, viz. that $\mathsf{A} \rightarrow p$ is a valid logical consequence. Hence, if SEARLE wants to show that his examples qua instances of the argument for existence truly are successfully performed illocutionary acts of reasoning, he needs to provide evidence for the validity of the logical consequence in question. But as I have pointed out in 2.1.1, the only *sufficient evidence* adequate for this purpose is a proof in a complete and correct deductive system. In brief,

[5] The difference between a logical consequence and a material conditional is black and white. A logical consequence captures the transition from a set of premises to a conclusion. This transition is justified, viz. valid, iff the conclusion is true under (at least) all the same circumstances in which the set of premises is true. Although it is correct that a conditional introduction (e.g. BARWISE/ETCHEMENDY 2003, p. 206) can be applied to every valid logical consequence, the conditional introduction is *not an appropriate measure* to capture the meaning of a valid logical consequence. A material implication like $P \rightarrow Q$ is obviously a sentence expressing a certain truth-value, whereas a logical consequence states whether a certain transition from a set of premises to a conclusion is valid or invalid. In an argument, every sentence is bound to express a definite truth-value; this precondition is met by stating a set of premises which is axiomatically true. Hence $P \rightarrow Q$ needs to be allotted with a truth-value. As FREGE (1923, p. 46ff.) remarks, the allocation of the truth-value 'true' to a material conditional $P \rightarrow Q$ is often confused with a logical consequence P *ergo* Q. Since I am not in favour of introducing a new symbol which would express X *ergo* Y (for example $X \vdash Y$), I propose that a material conditional counts as expressing a logical consequence iff *the set of sentences constituting the antecedent is a subset of the set of premises.* From this constraint follows the interpretation that Q is a valid logical consequence of $P \rightarrow Q$ *given* P iff $P \rightarrow Q$ *given* P is true. This excludes the possibility of invalid logical consequences; either a valid logical consequence is on hand, or no logical consequence exists at all.

[6] 'Asserting' according to SEARLE (1969, p. 66).

SEARLE has not given such a proof.[7]

Objecting to my analysis, one could argue that the preparatory rule does not require *sufficient* evidence for $\mathsf{A} \rightarrow p$. Therefore, a proof in a deductive system would not be necessary in order to perform a successful and non-defective illocutionary act of reasoning. This objection is refuted by pointing out that the illocutionary act of reasoning is only to be understood consistently if sufficient evidence is required. It may be demonstrated through *proof by contradiction.* Let us assume that the evidence required by the preparatory rule need not be sufficient. From this follows that the truth of p_c is not ensured, viz. the logical consequence might be invalid. And from this follows that an illocutionary act of reasoning can be successfully accomplished even when $\mathsf{A} \rightarrow p$ is invalid. Consider, for example, this instance of p_c: $\mathsf{A} \rightarrow p \equiv$ 'If S performs a successful act of reasoning, then S does not perform a successful act of reasoning'. Given the aforementioned assumption, S successfully reasons that S does in fact not reason. Since it is *incomprehensible* how such an act could be performed at all, our assumption leads to a contradiction and needs to be discarded. Consequently, the objection stating that the preparatory rule does not require sufficient evidence for $\mathsf{A} \rightarrow p$ is proven false.

objection: insufficient evidence acceptable

rejoinder: absurd consequence

Summing up, SEARLE's examples of valid reasoning conducted in ordinary English are not sufficient to prove the validity of the argument for existence. Whether 'valid reasoning' is understood as a valid logical consequence or a successful and non-defective illocutionary act of reasoning, proof in a formal deductive system is required. This entails the formalization of the argument for existence.

2.2 Formalization of the Argument for Existence

2.2.1 Informal Account

The structure of the argument for existence represents itself informally as follows (G: general term, T: tautology, U: universal):

P1 Every meaningful G entails a T.

P2 From every T, the existence of the corresponding U can be derived.

P3 There exists at least one G.

K There exists at least one U.

[7] With FREGE (1918, p. 58f.) my argument might be further elucidated along the following lines: Given a natural language N, the deduction of $\neg B$ from the premises $(A \rightarrow B) \wedge A$ in N counts as valid reasoning. Applying SEARLE's terminology, this means that $(A \rightarrow B) \wedge A$ ergo $\neg B$ counts as valid reasoning in ordinary N. Evidently, $\neg B$ is not a valid logical consequence of $(A \rightarrow B) \wedge A$ but rather a crude fallacy. There exists a discrepancy between what *counts* as valid reasoning in N and what *actually is* valid reasoning. FREGE ascribes this gap to the difference between "Führwahrhalten" (taking for true) and "Wahrsein" (being true): From the mere fact that a logical consequence is *accepted* as valid it does not follow that the logical consequence is *in fact* valid. Since *any* invalid reasoning may count as valid reasoning in ordinary N, it is absurd to justify the validity of any logical consequence with reference to ordinary N.

The conclusion of the argument for existence is entailed by three premises. The first two premises arise directly from SEARLE's condensed version of the argument for existence (SEARLE 1969, p. 104). The third premise is an implicit premise needed for the validity of the argument (vide infra). Taking the argument for existence seriously, a commitment to the third premise is mandatory according to the principle of charity (HONDERICH 1995, p. 135).

2.2.2 Formal Account

Since the logical form might be ambiguously depicted by the informal account, a formalization of the argument for existence is necessary. Moreover, this will enable us to prove the validity of the argument in a formal deductive system. The formalization requires the choice of a suitable *logical language*. Two facts need to be considered for this purpose:

choice of logical language

1. Every premise is at least universally or existentially quantified.
2. The second premise expresses a modality ("can be derived").

The choice of the logical language stems from the following considerations: Due to (1), a propositional calculus is not adequate. For this reason, a predicate calculus is necessary. Since there is no need to quantify over sets of objects, a *first-order calculus* (FOL) is applied. In order to account for the modality of the second premise stated in (2), an expansion to first-order modal logic would be inevitable. Since a first-order modal logic involves a cluster of unsolved problems (GARSON 2000) which need not concern us here, I propose to *disregard* the modal aspect of the second premise. This is not to SEARLE's disadvantage for a modal interpretation of the argument for existence is *invalid* (vide infra). Hence, the second premise is reformulated:

FOL

modal aspect disregarded

P'2 From every T derives the existence of the corresponding U.

Regarding the formalization of the argument for existence, the following *interpretation* and *domain of discourse* are given:

English	Interpretation	Domain of Discourse
x is a general term	G(x)	S $\equiv \{x \mid M(x) \vee N(x)\}$
x is meaningful	M(x)	all terms
x is a universal	N(x)	all objects
x is a tautology	T(x)	S $\equiv \{x \mid M(x) \vee N(x)\}$
y is the corresponding universal of x	U(x, y)	S $\equiv \{x \mid M(x) \vee N(x)\}$

Table 2: Interpretation and Domain of Discourse

Based on this interpretation and domain of discourse, the *formal account* of the argument for existence can finally be given:

logical form

P*1 $\forall x \{G(x) \rightarrow T(x)\}$

P*2 $\forall x \{T(x) \rightarrow \exists y U(x, y)\}$

P*3 $\exists x G(x)$

K* $\exists x \exists y U(x, y)$

2.3 Proof of the Validity of the Argument for Existence

Any complete and correct formal deductive system enables us to prove the validity of SEARLE's argument for existence. I am going to prove the validity of the argument in *system F*, a Fitch-style deductive system of natural deduction introduced by BARWISE et al. (2005, pp. 571f.). Proof:

system F

No.	Proof		Rule	Comment
(1)	$\forall x\,\{B(x) \rightarrow T(x)\}$			Premise
(2)	$\forall x\,\{T(x) \rightarrow \exists y U(x,y)\}$			Premise
(3)	$\exists x B(x)$			Premise
(4)		$[a]\,B(a)$		Start Subproof $[a]$
(5)		$B(a) \rightarrow T(a)$	$\forall$ Elimination: 1	
(6)		$T(a)$	$\rightarrow$ Elimination: 5, 4	
(7)		$\exists x T(x)$	$\exists$ Introduction: 6	End Subproof $[a]$
(8)	$\exists x T(x)$		$\exists$ Elimination: 3, 4-7	
(9)		$[b]\,T(b)$		Start Subproof $[b]$
(10)		$T(b) \rightarrow \exists y U(b,y)$	$\forall$ Elimination: 2	
(11)		$\exists y U(b,y)$	$\rightarrow$ Elimination: 10, 9	
(12)		$\exists x \exists y U(x,y)$	$\exists$ Introduction: 11	End subproof $[b]$
(13)	$\exists x \exists y U(x,y)$		$\exists$ Elimination: 8, 9-12	q.e.d.

Table 3: Argument for Existence Proven Valid in System F

The argument for existence is *valid*. By comparison, an interpretation which takes into account the modal aspect of the second premise fails:

argument for existence valid

No.	Proof		Rule	Comment
(1)	$\forall x\,\{B(x) \rightarrow \diamond T(x)\}$			Premise
(2)	$\forall x\,\{\diamond T(x) \rightarrow \diamond \exists y U(x,y)\}$			Premise
(3)	$\exists x B(x)$			Premise
(4)		$[a]\,B(a)$		Start Subproof$[a]$
(5)		$B(a) \rightarrow \diamond T(a)$	$\forall$ Elimination: 1	
(6)		$\diamond T(a)$	$\rightarrow$ Elimination: 5, 4	
(7)		$\exists x \diamond T(x)$	$\exists$ Introduction: 6	End Subproof$[a]$
(8)	$\exists x \diamond T(x)$		$\exists$ Elimination: 3, 4-7	
(9)		$[b] \diamond T(b)$		Start Subproof$[b]$
(10)		$\diamond T(b) \rightarrow \diamond \exists y U(b,y)$	$\forall$ Elimination: 2	
(11)		$\diamond \exists y U(b,y)$	$\rightarrow$ Elimination: 10, 9	
(12)		$\exists x \diamond \exists y U(x,y)$	$\exists$ Introduction: 11	End Subproof$[b]$
(13)	$\exists x \diamond \exists y U(x,y)$		$\exists$ Elimination: 8, 9-12	
(14)	$\exists x \exists y U(x,y)$		?	non sequitur

Table 4: Modal Interpretation of Argument for Existence invalid in System F

It does not matter which modal system one assumes (for an overview cf. PRIEST 2008, pp. 48-60): $\exists x \exists y U(x,y)$ cannot be deduced from $\exists x \diamond \exists y U(x,y)$. Simply spoken, there is no modal system which grants the axiom $\diamond A \rightarrow A$. In a modal interpretation, SEARLE would only have proven that possibly there might exist a corresponding universal for a given general meaningful term. Obviously, this is not sufficient as proof for the existence of universals.

invalid modal interpretation

3 IS THE ARGUMENT FOR EXISTENCE CORRECT?

In the previous chapter, the non-modal interpretation of SEARLE's argument for existence was proven valid in the formal deductive system F. In order to be convincing, the argument must also be correct (BECKERMANN 1997, p. 24-27). For this reason, I will take a closer look at the truth of the premises. *premises true?*

3.1 Definition of the Concept 'Tautology'

The first premise of the argument for existence states that every meaningful general term entails a tautology. An evaluation of this premise is only possible if we understand SEARLE's definition of the concept 'tautology'. In logic, 'tautology' refers to a sentence which is true due solely to its truth-functional structure, viz. the meaning of the sentential connectives (cf. e.g. BARWISE/ETCHEMENDY 2003, p. 94-100, BUCHER 1998 p. 85f.). Therefore, in a truth-table, every row assigns the value 'true' to the main connective of a tautology. VISION (1970, footnote p. 156) rightly remarks that the extension of SEARLE's definition is *much wider*: alongside axioms and theorems, it includes *logical truths*. A logical truth is a sentence which follows logically from every set of premises but does not need to be a tautology. A paradigmatic example for a logical truth is the sentence $a = a$. Although it follows from every set of premises, it is not assigned the value 'true' in every row of a truth-table.[8] Moreover, it is crucial for SEARLE's definition that "tautologies commit us to no extralinguistic facts" (SEARLE 1969, p. 106).[9] Hence, a minimal version of SEARLE's definition of a tautology reads as follows:

wide extension: tautology as logical truth

***SEARLE's* tautology-concept**

tautology$_\mathrm{S}$ $=_{\mathrm{def.}}$ (A) A sentence, (B) which is logically true and (C) does not entail extralinguistic entities[10]

3.1.1 Proof: Tautology-Definition is Inconsistent

By means of a proof by contradiction, I will demonstrate that even a minimal version of SEARLE's definition of a tautology is *inconsistent*. First, I will conduct the proof. Secondly, the inconsistency will be identified as a *self-contradiction* committed by SEARLE.

Nota bene: Since *two different* tautology-concepts are being used, I call a tautology according to SEARLE's definition 'tautology$_\mathrm{S}$' whereas I call a tautology in the strict logical sense (vide supra) 'tautology'. *tautology vs. tautology$_\mathrm{S}$*

[8] $x = y$ is a binary predicate using infix notation. It is saturated by the individual constant a. Hence, $a = a$ is an atomic sentence. In a truth-table, every atomic sentence is true for one half and false for the other half of the table. Therefore, $a = a$ can be false in a truth-table.

[9] In Tractatus 4.461, tautologies are characterized as "senseless" ("sinnlos"), because they fail to depict possible facts. SEARLE's conjecture that tautologies do not commit us to extralinguistic facts might be elucidated by an example provided by WITTGENSTEIN (2003, p. 53), Tractatus 4.461: "I know nothing about the weather when I know that it is either raining or not raining." Consequently, the tautology 'It is or is not raining' does not entail any extralinguistic facts about the weather.

[10] SEARLE (1969, p. 106) speaks of "facts". Since every fact is constituted by an exact constellation of entities, a reduction from 'fact' to 'entities' is unproblematic.

No.	Proof by Contradiction	Comment
(00)	$\forall x\,[Red(x) \vee \neg Red(x)]$, $M = \{x \mid Coloured(x)\}$	example of a tautology$_S$ (T_F)
(0)	$M = \{x \mid Coloured(x)\} \equiv \exists M \forall x\,[x \in M \leftrightarrow Coloured(x)]$	equivalence conversion
(1)	$A \wedge B \wedge C$	premise: SEARLES's tautology-definition
(2)	$A \rightarrow M \neq \emptyset$	logical truth
(3)	A	follows from 1.; conjunction elimination
(4)	$M \neq \emptyset \rightarrow \exists x(x \in M)$	logical truth
(5)	$\{\exists x(x \in M) \wedge \exists M \forall x\,[x \in M \leftrightarrow Coloured(x)]\} \rightarrow \exists x Coloured(x)$	logical truth
(6)	$\exists x Coloured(x) \rightarrow \neg C$	follows from 2.-5. and the meaning of C
(7)	$(C \wedge \neg C)$	C follows from 1., $\neg C$ folows from 2.-6.
(8)	$(C \wedge \neg C) \rightarrow \bot$	tautology
(9)	$\bot \rightarrow \neg(A \wedge B \wedge C)$	tautology
(10)	$\neg(A \wedge B \wedge C)$	follows from 7.-9. ; q.e.d.

Table 5: Proof by Contradiction: SEARLES's Tautologie$_S$-Definition is Inconsistent

3.1.2 Inconsistency as Self-Contradiction

(00) "Everything coloured is either red or not red" (subsequently called T_F) is a quantified sentence and SEARLE's example of a tautology$_S$ (SEARLE 1969, p. 105). *T_F*

(0) The equivalence conversion of T_F's domain of discourse is created by employing the *Axiom of Extensionality*: 'The set of all coloured objects' is equivalent to: 'There is a set M whose members are all and only those objects that are coloured' (BARWISE/ETCHEMENDY 2003, p. 408f.). *equivalence conversion*

(1) It is stated as a premise that the conjunction of atomic sentences constituting SEARLE's definition of the concept 'tautology$_S$' is true. The sentence variables relate to the atomic sentences of the definition: $A \equiv$ a tautology$_S$ is a sentence, $B \equiv$ a tautology$_S$ is logically true, $C \equiv$ a tautology$_S$ does not entail extralinguistic entities. *premise: tautology$_S$-Definition*

(2) If a tautology$_S$ is a sentence (cf. A), then its domain of discourse is *not empty*. Hence, if T_F is a sentence, then its domain of discourse is also not empty. The *implicit* premise assumed in this conditional is that no sentence has an empty domain of discourse (cf. KANNETZKY 1999, p. 994, BARWISE/ETCHEMENDY 2003, p. 236). I call this unstated premise '$M \neq \emptyset$' premise. Its truth is crucial in order to account for the inconsistency of SEARLE's definition. Consider the following informal proof by contradiction, which demonstrates the truth of the $M \neq \emptyset$ premise: Let us assume that a quantified sentence's domain of discourse is empty. Quantified sentences are true or false only with respect to a certain domain of discourse. The domain of discourse establishes a set of objects and something is predicated over its members. If the set (viz. the domain of discourse) is empty, then it is impossible to predicate something over its members. But if nothing can be predicated, then no truth-value is allocated to the sentence. Since a sentence is by definition either true or false, a *contradiction* follows. Hence the assumption that the domain of the quantified *non-empty domain of discourse* *implicit $M \neq \emptyset$ premise*

sentence is empty must be wrong. A tautology$_S$ like T_F is according to A a sentence. As shown, a sentence cannot feature an empty domain of discourse. Thus '$A \rightarrow M \neq \emptyset$' is a *logical truth*.

SEARLE proposes an analogous premise concerning the *act of predication*.[11] He formulates a set of rules which must be followed by a speaker in order to perform a successful and non-defective act of predication. The second rule states (SEARLE 1969, p. 127):

> "A predication is to be uttered in a sentence only if the utterance of the sentence involves a successful reference to an object."

A successful and non-defective act of predication requires a successful and non-defective act of reference. The second rule (SEARLE 1969, p. 96) pertaining to the act of reference states that the performance of an act of reference entails the *existence* of an object. This object is to be identified for the hearer by referring to it. SEARLE (1969, p. 77) calls this constraint the *axiom of existence*: "Whatever is referred to must exist." A successful and non-defective act of predication entails a successful and non-defective act of reference; a successful and non-defective act of reference entails the existence of an object referred to. If no object exists, no act of reference and ergo no act of predication is possible. Hence, a successful and non-defective act of predication presupposes the existence of at least one object. The $M \neq \emptyset$ premise states nothing else regarding sentences: if the domain of discourse is empty, viz. no object exists, predication is infeasible. But if predication is stalled, no sentence is possible, for a sentence predicates something of something. Therefore, every sentence entails a non-empty domain of discourse.

axiom of existence

predication entails reference, reference entails referee

(3) A follows from the premise by means of a conjunction elimination.

(4) If T_F's domain of discourse is non-empty, then there exists at least one object which is a member of the set constituting T_F's domain of discourse. This is a logical truth.

(5) There exists an object which is a member of the set and all and only those objects that are coloured are members of the set. Therefore, there exists a coloured object. This material conditional is a logical truth.

something coloured exists

(6) C states that a tautology$_S$ does not entail any extralinguistic entities. Thus, T_F does not entail any coloured entities. However, it follows from 2.-5. that T_F does indeed entail the existence of something coloured.[12] If T_F requires the existence of something coloured, C is false.

...something extra-linguistic exists

(7)-(10) Since the truth of C and $\neg C$ is *simultaneously* asserted, a *contradiction*

contradiction

[11] This is important, for $A \rightarrow M \neq \emptyset$ is not only a logical truth but furthermore a premise accepted by SEARLE. Since I will show that SEARLE's definition of a tautology$_S$ ignores this premise, SEARLE commits a self-contradiction. Therefore, the refutation of the argument for existence is justified *externally* (inconsistent premises) and *internally* (self-contradiction).

[12] Since it would be a *category mistake* to assume that a linguistic entity can be coloured, T_F necessarily entails the existence of a coloured *extra-linguistic* entity.

follows from the premise. Thus, the premise must be false. Because the premise is constituted by SEARLE's definition of a tautology$_S$, the definition is proven to be *inconsistent.*

In order for the argument for existence to be correct, all of its premises must be true. Since SEARLE's tautology$_S$ definition is inconsistent, the first and the second premise can't be true, for they employ the inconsistent definition and require the consistency of the tautology$_S$ predicate in order to be meaningful. It follows from the above that the argument is *incorrect*; it fails to prove the existence of universals.

argument for existence incorrect

3.2 Inconsistency Eliminated Through Redefinition

Can SEARLE's argument for existence be saved? By eliminating the inconsistent tautology$_S$-definition, I will attempt to emend the argument. Under the assumption of a consistent tautology-predicate, the truth of all premises and hence the correctness of the argument can be shown. I will demonstrate, however, that the second premise is nevertheless deceptive.

SEARLE's tautology$_S$-definition (3.1, vide supra) is inconsistent because a sentence (A) necessarily implies extralinguistic entities ($\neg C$). A is the definition's *genus proximum* and can't be discarded. Therefore, C must be eliminated from the *differentia specifica.* If the concept 'tautology' predicates that an object is (A) a sentence and (B) logically true, then it is consistent. I call such a consistent tautology 'tautology$_C$'. In the following, I presume the consistent definition.

consistent redefinition: tautology$_C$

The first premise of the argument for existence (2.2.2, vide supra) states that every meaningful general term entails a tautology$_C$. This premise is true, since every meaningful general term $F(x)$ can be employed in a sentence like $\forall x\,[F(x) \vee \neg F(x)]$, which follows from every set of premises because it is a logical truth. Therefore, it is also a tautology$_C$. SEARLE's example T_F is an instance of a tautology$_C$. The third premise is trivially true since meaningful general terms exist. However, the truth of the second premise is most interesting.

*P*1 and P*3 true*

3.2.1 Deduction of U from T_C: P*2 is True

The second premise states that every tautology$_C$ entails the existence of a universal, which corresponds to the general meaningful term used in the sentence. Consider an example: Since $\forall x\,[F(x) \vee \neg F(x)]$ is a tautology$_C$ and $F(x)$ is a general meaningful term, the existence of a universal F is implied, for F is $F(x)$'s corresponding universal. The second premise is an instance of a restricted universal claim. Hence, the premise is true if the material conditional can be proven with the help of a *general conditional proof* (BARWISE/ETCHEMENDY 2003, p. 335-9). If the existence of a *random* universal can be deduced from the general meaningful term to which it corresponds to, then this inference is true for *every* universal.

universal F entailed by tautlogy$_C$?

If we want to express the existence of a universal in a formal language in order to use it in system F, we rely on the language of second-order logic. Let F be a *variable* for a universal derived from the general meaningful term $F(x)$ and let R be a similarly formed *eigenvariable*. I propose that the existence of a universal is expressed adequately only by the sentence $\exists F(F = R)$. Consider:

expressing the existence of F in system F

1. A string of characters constituting $\exists R$ (R exists) is nonsense (not well-formed) because it is only possible to quantify over variables like F. Therefore, $\exists R$ is meaningless.

   formally wrong

2. Consider the introduction of a second-order predicate $U_{\mathrm{R}}(F)$, which means that F is the universal R. Thus, the existence of R could be expressed by using the sentence $\exists U_{\mathrm{R}}(F)$. Since $\exists U_{\mathrm{R}}(F)$ does not logically follow from a tautology$_{\mathrm{C}}$ like $\forall x\,[F(x) \vee \neg F(x)]$, this option of expressing the existence of a universal is not helpful with regard to the required general conditional proof.

   argumentatively wrong

3. According to RUSSELL's theory of descriptions (LYCAN 2000, S. 16-26), a singular term such as a name is an *abbreviation* for a complex sentence. For example, the name 'Obama' stands for 'There is exactly one object which presides over the United States of America'. It does not matter whether RUSSELL is right. Rather, the theory of descriptions contains the solution of how to express the existence of a distinct universal R. Suppose that R is an abbreviation for the complex sentence $\exists F\,\{(F = R) \wedge \{\forall P\,[(P = R) \rightarrow (P = F)]\}\}$. This sentence asserts that there is exactly one object which is identical to R, namely R. This proposition is more easily expressed as $R = R$. The sentence $\exists F(F = R)$ adequately shows the existence of a universal R, for $\exists F(F = R)$ states that there is something which is identical to R. Obviously, this can only be R, ergo R exists.

   RUSSELLS theory of descriptions

   solution: $\exists F(F = R)$

   If $\exists F(F = R)$ follows from a tautology$_{\mathrm{C}}$ like $\forall x\,[R(x) \vee \neg R(x)]$, then the general conditional proof works. By means of a conditional introduction, $\forall x\,[R(x) \vee \neg R(x)] \rightarrow \exists F(F = R)$ is deduced. The use of the *eigenvariable* R implies that the inference is sound for every universal, respectively for every corresponding predicate.

The formal proof of P*2's truth in system F:

No.	Proof	Rule	Comment
(1)	$\forall x\,[R(x) \vee \neg R(x)]$		premise: tautology$_{C}$
(2)	$R = R$		logical truth
(3)	$\exists F(F = R)$	$\exists$ Introduction: 2	q.e.d.

Table 6: Proof of U's Deduction from T_{C}: P*2 Is True

With regard to the proof, it becomes obvious that $R = R$ is not a mere assumption but a *logical truth*. If we express the existence of R as $\exists F(F = R)$, then it is impossible to prove $\exists F(F = R)$ without $R = R$. As a logical truth,

$R = R$ a logical truth, tautology$_C$ redundant

$R = R$ follows from every set of premises. This means that the tautology$_C$ is a *redundant* premise.

On the one hand, the second premise of the argument for existence is *true* insofar as the existence of a universal follows from any tautology$_C$. On the other hand, the second premise is *deceptive* since the existence of a universal is entailed by the logical truth $R = R$, which renders the tautology$_C$ completely superfluous. In other words, the existence of a universal derives from every sentence, not only from tautologies$_C$.

*P*2 true but deceptive*

3.2.2 Deceptive P*2: Universals as Linguistic Entities

Disregarding for a moment the argument for existence, the second premise is crucial for SEARLE's argument regarding the *ontological status* of universals. SEARLE (1969, p. 106) states that "from tautologies$_{[s]}$ only tautologies$_{[s]}$ follow". Hence, if the existence of a universal R follows from a tautology$_S$, it must be a tautology$_S$ as well. According to the inconsistent definition, a tautology$_S$ does not entail the existence of extralinguistic entities (not even its own extralinguistic existence, viz. the extralinguistic existence of R!). By this means SEARLE (1969, p. 115) concludes that "universals do not lie in the world". Rather, he thinks of them as *linguistic entities*. Consequently, SEARLE (1969, p. 104) finds the problem of universals to be a "pseudodispute". However, since his argument concerning the ontological status of universals is based on an inconsistent definition and a deceptive premise, SEARLE offers only a pesudosolution for the problem of universals.

universals as linguistic entities

pseudodispute vs. pseudosolution

Note that this does not affect the correctness of the argument for existence.

4 THE ARGUMENT FOR EXISTENCE BEGS THE QUESTION

I will argue that the argument for existence does not provide a convincing reason to accept the existence of universals, even though it might be correct. In order to support my objection I will demonstrate that the argument begs the question.[13]

correct but not convincing

If the conclusion of an argument is simultaneously a member of the set of premises, then the argument *begs the question* (ROSENBERG 1984, p. 94-101). For example, P shall be proven and is only supported by P. On the one hand, the argument is *formally valid*, since the deduction of a sentence from itself is always valid. On the other hand, the argument is *not convincing* because it does not answer the question *why* we should accept P in the first place. Begging the question harms a basic rule of argumentation and is therefore an *informal fallacy.*

definition 'begging the question'

informal fallacy

[13] My objection applies to the argument for existence independently from which tautology-definition is assumed (tautology$_S$ or tautology$_C$).

By means of the formal deductive system F, I have shown (3.2.1) that $\exists F(F = R)$ is a logical consequence of the tautology$_{\mathrm{C}}$ $R = R$. Thus, P*2 is true. Since the inference in question is justified by the rule of $\exists$-Introduction, it is an *internal* justification. Consider the more simple *metalogical*, viz. *external* rationale for the truth of P*2 (R is an *eigenvariable* and thus a schema for a second-order individual constant such as Q): $Q = Q$ is only a well-formed formula and hence a tautology$_{\mathrm{C}}$ if Q is an individual constant. By definition, every individual constant refers to exactly one object. Thus, Q refers to exactly one universal. But in order for Q to refer to a universal, such a universal must *exist*![14] I will employ this metalogical rationale in order to disclose the *petitio principii* in the argument for existence. The conclusion of the argument states that there exists a universal, which corresponds to a general meaningful term. However, this conclusion is a member of the set of premises, as it is implicitly assumed in the first premise.

*metalogical rationale for P*2*

The first premise asserts that every meaningful general term $Q(x)$ entails a tautology$_{\mathrm{C}}$, auch as $Q = Q$. The second-order predicate $X = Y$ is saturated with the second-order individual constant Q. Let us assume that Q does not entail the existence of a universal. If Q does not signify exactly one universal, then Q is not an individual constant. If Q is not an individual constant, then $Q = Q$ is not a well-formed formula and therefore not a sentence. If $Q = Q$ is not a sentence, then it is not a tautology$_{\mathrm{C}}$. However, this *contradicts* the premise, since we assumed that $Q = Q$ *is* a tautology$_{\mathrm{C}}$. Therefore, our assumption must be wrong, meaning that Q does *indeed* entail the existence of a universal.

Since the conclusion, viz. the existence of a universal, is already implicitly assumed in the premise, the existence argument *begs the question*.

argument for existence begs the question

5 CONCLUSION

SEARLE's apparent nonchalance toward solving the problem of universals *en passant* within the framework of his Speech Act theory is certainly thought-provoking. Unfortunately, the argument for existence is not compelling. Although its validity and, employing certain modifications, its correctness can be demonstrated, it still begs the question. This is surprising given that SEARLE (1969, p. 72-94) dedicates an entire chapter of his Speech Act theory to prove the claim that every singular term refers to an existing object.

Overall, SEARLE's claim to have solved the problem of universals does not live up to its promise: the linguistic conception does not withstand the objections of TRAPP (1976, p. 168f.) and VISION (1970, p. 155ff.), *nor* does the argument for existence prove the existence of universals, as shown in this paper.

[14]This metalogical rule holds true for every logical language and is analogous to SEARLE's (1969, p. 121) *Axiom of Existence*.

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