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CRITERION FOR VALIDITY OF IMPERATIVE ARGUMENT IN VRANAS'S SYSTEM: REVISITED

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RESEARCH ARTICLE

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Abstract

In his system of imperative logic, P. Vranas has defined imperative sentences which he prefers to call prescriptions. They are either satisfied or violated. But in determining the validity of imperative arguments he introduces 'support by reasons' instead of using the satisfaction-violation criterion in a straight forward manner. An imperative argument is valid iff 'support by reasons' transfers from the premises of an argument to its conclusion. My attempt is to revisit Vranas's system to sort out this disparity and make some comment on it.

Keywords: *Imperative sentences, Satisfaction and violation, Imperative arguments, Strong and weak sense of imperative arguments*

In recent times, P. Vranas[1], in his series of articles, proposes a new system for imperative sentences. In his system he formulates imperative sentences in terms of satisfaction and violation criterion. He also deals with the validity of imperative arguments. His notion of strong and weak validity of imperative arguments makes an appeal to strong and weak support by reason. His argument is that as truth is transmitted from premises to a conclusion in a declarative argument, the support by reason, either in strong or weak sense, is also transmitted from the premises to conclusion in an imperative argument. This paper is an attempt to overview Vranas's system of imperative logic with a claim that his proposal may be revisited for the disparity regarding his formulation of imperative sentences with their non-truth functional values, namely, satisfaction and violation for unconditional imperative sentence and avoidance for conditional imperative sentence on the one hand, and introducing reason-support criterion for determining validity of imperative arguments, on the other.

In the first section I have discussed the motivation behind articulating a separate system for imperative sentences and two approaches regarding imperative arguments. The second section deals with Vranas's system of imperative logic. The third and the concluding section is concerned with the disparity regarding the nature of imperative sentences and the validity of imperative arguments found in Vranas's proposal. It also includes some observations.

II

Imperatives express commands or prescriptions that refer to some action, activity or any state of affairs to be brought about. An example of an imperative sentence is as follows.
Close the window!
It may be symbolized as !P (! be the operator expressing imperative mood of a sentence.)

Motivation for developing imperative logic

1. Imperatives may be combined with each other and with indicatives and thus we have conjunction, disjunction, negation, conditional and bi-conditionals of imperative sentences.
a) Conjunction
Jump out of the window and land on the pile of mattresses!
Two imperatives 'jump out of the window' and 'land on the pile of mattresses' are conjoined with 'and'.

b) Disjunction
Go to the beach or play in the park!
Two imperatives are connected with either-or.

c) Negation
The negation of the imperative sentence "Marry him" is "Don't marry him".

d) Conditional
A conditional imperative is such that the antecedent is a proposition, and the consequent is an imperative.
If you see John, say hello!

e) Bi-conditional
Help him if and only if he asks for your help!
2. Imperatives may also have values, though not truth-functional. As imperatives are neither true nor false, they can possess some non-truth functional values. An imperative is either satisfied or not satisfied, i.e., violated. P. Vranas also proposes a third value of avoidance for imperative sentences which are conditional imperatives.

Two approaches of imperative arguments

There are two approaches regarding imperative arguments. One approach is that in which imperative sentences are reduced to indicative sentences and so that they have been easily accommodated within the scope of classical logic. The other approach is that imperative sentences are incognitive in nature but can be treated as constituent of imperative arguments. They have values, other than truth-functional values. Imperative arguments can be determined as valid or invalid. Peter Vranas's system is one of the latter kind.

III

Validity of imperative argument formulated by P. Vranas

Before going into the validity of imperative argument as developed by P. Vranas$_2$, it is necessary to know about the nature of prescriptions which he prefers to call instead of imperatives. The system of imperative sentences is based on a language which includes sentential constants (propositions), logical connectives like '¬' (negation), '∧' (conjunction), '∨'(disjunction), '→' (conditional), '↔' (bi-conditional) and brackets '(' ')'. In the metalanguage S, V, C are variables for sentences. An imperative is represented by a pair <S,V> where S and V are logically exclusive which can be expressed as follows.
$\vdash S \rightarrow \neg V$.

S means the 'satisfaction proposition' and V the violation proposition of the imperative: S is true if and only if the imperative is satisfied and V is true iff the imperative is violated. The 'context' of an unconditional imperative is $S \vee V$.
He makes a distinction between unconditional and conditional imperatives. Vranas's standard example of a conditional imperative is "If you kiss me, hug me." Here C is the proposition that you kiss me and A is the proposition that you hug me. In a conditional imperative the condition itself is the context. A conditional imperative may be expressed in the following way.
$C \rightarrow !A$

According to Vranas, an imperative argument is valid iff every reason that supports the conjunction of premises must also support the conclusion. A reason supports an imperative iff it favours its satisfaction proposition over its violation proposition. As we have seen that a conditional imperative argument may be translated as $C \rightarrow !A$, now following Vranas's interpretation of imperative argument it may be expressed as $<C \wedge A, C \wedge \neg A>$ [an ordered pair of the conjunction of the context and satisfaction proposition, the context and violation proposition.] The support of reason means $C \wedge A$ is preferred over the violation proposition $C \wedge \neg A$. This may be shown in the following way:
$!(A/C) = (C \wedge A)$ favours over $(C \wedge \neg A)$.
Vranas's definition of validity of imperative argument may be symbolized in the following way.
$[(C_1 \rightarrow A_1) \ldots\ldots (C_n \ldots\ldots A_n)] \rightarrow (D \rightarrow !B)$
So, $[(!A_1/C_1) \wedge \ldots\ldots \wedge !(A_n/C_n)] \rightarrow !(B/D)$

Vranas holds that an imperative argument is either strongly valid or weakly valid. It is strongly valid if every reason that strongly supports the conjunction of the premises of the argument also strongly supports the conclusion of the argument. According to him, an imperative argument is strongly valid iff V is necessary, or S′ entails S and V′ entails V.
A prescription may be either unobeyable or obeyable.
A prescription is unobeyable (its obedience proposition is logically impossible, its violation proposition is necessary. For example, Run and don't run.) There is no possible world in which it is obeyable.
A prescription is obeyable (not unobeyable), then there is a possible world in which the prescription can be obeyed because it is strongly supported by a reason conditional on the context of the prescription.
For example, If you love your children, torture just for fun.

There may be an extremely remote possible world in which it is a fact that there may be an expected long-term consequence associated with any possible proposition which entails that you love your children and you do not torture them for fun.
So, if V is necessary, or S' entails S and V' entails V, then the imperative argument is strongly valid. V is necessary when the prescription is unobeyable. There are three points to be noted.

(1) If V is necessary, then < S,V> is unobeyable, so it is impossible for <S,V> to be strongly supported by any reason.
(2) If S′ entails S and V′ entails V, then it is necessary that every proposition which entails S′ also entails S and every proposition which entails V′ also entails V, so it is necessary that (a) if a reason R favours every proposition which entails S

over every proposition which entails V, then R favours every proposition which entails S′ over every different proposition which entails V′, and (b) if a reason R does not favour any proposition which entails S over any other such possible proposition, then R does not favour any proposition which S′ over any other such possible proposition, then it can be said that If a reason strongly supports <S,V> it also strongly supports <S′,V′> then the argument is strongly valid.

Next, Vranas holds that a strongly valid imperative argument is a case of strengthening the antecedent. For example,
If A is true, let B be true.
So, if A & A* is true, let B be true.
The requirement of a strongly valid imperative argument (S' entails S, V' entails V and C' entails C) may be expressed in the following way:
If C is true, then let S be true.
So C &C' is true, then let S be true.
Now the context C &C' is C' (since C' entails C, and the satisfaction proposition, namely (C &C') & S′ is C′ & S, namely (S′ &S) ∨ (V&S), which is S′, since S′ entails S and V′ entails V and thus this entails ¬S.
So an imperative argument that is an instance of strengthening the antecedent is strongly valid. So an obeyable imperative is strongly valid if it is an instance of strengthening the antecedent.
Example, If it rains, close the window.
So, if it rains and thunders, close the window.
[context: 'it rains and thunders & it rains', is 'it rains' (since 'it rains and thunders' entails 'it rains'), satisfaction proposition : 'it rains and thunders and you close the window entails it rains and you close the window, it rains and thunders and you close the window.']

Here the violation proposition is necessary, the satisfaction proposition of the conclusion entails the satisfaction proposition of the premise and the violation proposition of the conclusion entails the violation proposition of the premise. Thus it is a case of strongly valid imperative argument.

Weakly valid imperative argument

An imperative argument is weakly valid if C′ entails C and V′ entails V.
For example,
If you love me, neither smoke nor drink.
So, If you love me, don't smoke.

Here the context C′ (the proposition that you love me) is same as (and thus entails) the context C of the premise and the violation proposition V′ of the conclusion (the proposition you love and smoke, entails the violation proposition of the premise (the proposition that you love me and either you smoke or you drink (or both).

Concluding Remarks

In the above section I have discussed Vranas's formulation of imperative logical system. He formulates an imperative sentence in terms of its satisfaction and violation propositions. He also makes a distinction between unconditional and conditional imperative sentences. He defines imperative arguments (involving conditional imperative sentences) in terms of some logical relations between their 'condition and the imperative mood or focus'. He does not aim at characterizations of imperative arguments in terms of satisfaction and violation. Rather he introduces a new concept of the 'support of reason' to deal with either strongly valid or weakly valid imperative arguments.

Here a question may arise: is it not possible to determine the validity of an imperative argument with its satisfaction and violation proposition only without the support of reason, either strongly or weakly?

Vranas gives a negative answer to this question by saying that any attempt to determine the validity of an imperative argument with satisfaction-violation criterion would culminate in the fact of losing the novelty and uniqueness of imperative logic. Imperative logic may result in a logic of satisfaction. It would be a variety of the reductionist approach towards imperative logic. The basic essence of an imperative argument is that when we talk about inferring imperatives we do not talk about their satisfaction propositions - either true or false. An imperative sentence involves some commitment or attitude of the speaker who is uttering the imperative sentence as well as the hearer who is supposed to carry out it.
Moreover, if imperative logic is reduced to a logic of satisfaction, then one can have make the following claims.
!A
So, A.
And
A
So, !A.

Here, a declarative sentence may be drawn from an imperative sentence. But in imperative logic, it is not allowed. And from a declarative sentence, an imperative conclusion cannot be drawn. Imperative logic claims that in an imperative argument the conclusion must be an imperative sentence and there must an imperative sentence as a premise from which the imperative conclusion follows. There may be a declarative sentence as an additional premise.

Here a question may be raised in this situation. Is it really necessary to have the reason-supporting criterion, either strongly or weakly for dealing with the validity of imperative arguments? Jorg Hansen[3], in his paper, entitled *Be nice! How Simple Imperatives Simplify Imperative Logic* has raised this issue. He shows that the system of imperative logic proposed by Vranas may be simplified. He shows that whatever has been explained by the reason support criterion for determining the validity of imperative argument can easily be done with the help of satisfaction and violation if decoded in the following way. A strong argument has these equivalences.

$!A_1 \ldots\ldots !A_n \mid\sim_s C \Rightarrow !A$
iff either $\vdash \neg (A_1 \wedge \ldots \wedge A_n)$ or $\vdash C \rightarrow ((A_1 \wedge \ldots \wedge A_n) \leftrightarrow A)$
iff either $\vdash \neg (A_1 \wedge \ldots \wedge A_n)$, or $\vdash \neg (A_1 \wedge \ldots \wedge A_n) \rightarrow (C \rightarrow A)$ and $\vdash (C \wedge A) \rightarrow (A_1 \wedge \ldots \wedge A_n)$
iff either the premises are unsatisfiable, or if the premises are satisfied then the conclusion must be obeyed and if the conclusion is satisfied then so must be the premises.
For weak inferences we have following equivalences:
$!A_1 \ldots !A_n \mid\sim_w C \Rightarrow !A$
iff $\vdash C \rightarrow ((A_1 \wedge \ldots \wedge A_n) \rightarrow A$
iff $(A_1 \wedge \ldots \wedge A_n) \rightarrow (C \rightarrow A)$
iff if the premises are satisfied then the conclusion must be obeyed.

Then he concludes that we can thus obtain as a corollary that all your imperative arguments can be characterized in terms of satisfaction and violation. No further motivation like a 'support by reason' or any other external justification is required.
So it may be said that according to Vranas an imperative sentence has mainly two non-truth functional values, namely, satisfaction and violation. An imperative sentence is expressed with the help of the semantic interpretation of the values, satisfaction proposition and violation proposition. Next the semantic meaning of the reason-support criterion deals with the satisfaction of an imperative. And if an imperative is satisfied it is obeyed. It also deals with the violation of an imperative. So it can easily be said that whatever has been said in reason-support criterion, can be handled with the satisfaction-violation criterion of an imperative argument. So the reason-support criterion is nothing new.

Moreover though Vranas makes a distinction between unconditional and conditional prescription by introducing the avoidance criterion but he does not use the avoidance criterion in determining the validity of imperative arguments.
2. Vranas has explained strong valid imperative argument in terms of strengthening the antecedent. But 'strengthening the antecedent' may be sometimes considered troublesome. It leads us to the paradox called '*fallen nun paradox*' proposed by A. N. Prior[4]. According to this paradox, doing of what is forbidden commits us to the doing of anything whatsoever. So the forbidden act of stealing commits us to committing adultery. This paradox can be shown in the following way.
$!A$
$\neg A \rightarrow !A$ [strengthening the antecedent]
$\neg A \rightarrow !(B \wedge A)$ [extending the context]
So, $\neg A \rightarrow !B$ [application of rule of conjunction elimination]

In conclusion, it may be said that imperative logic as a branch of logic has been encouraged by many contemporary logicians. P. Vranas is one of them. It is a fact that imperative sentences are neither true nor false, so they cannot be handled within the scope of two-valued logic. New criterion has been thought of. They are satisfaction and violation. Vranas's system may be simplified if we are able to reinterpret the criterion of support by reason in terms of satisfaction and violation. But Vranas has attempted to develop a full-fledged logical system for imperative sentence. It has a wide scope of further study.

According to Vranas prescriptions have logical connectives like negation, conjunction, disjunction, conditional and bi-conditional. They can be defined in terms of satisfaction criterion and may be represented in tabular forms in the following way:

i) Negation:

P	~p
S	V
V	S

ii) Conjunction and Disjunction:

I / I′	I & I′ S A V	I ∨ I′ S A V
S	S S V	S S S
A	S A V	S A V
V	V V V	S V V

Conditional:

p → I		S	A	V
T/F	S/A/V			
T		S	A	V
F		V	A	S

Bi-conditional:

P ↔ I	S	A	V
T	S	A	V
F	A	A	A

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