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TOLERATING INCONSISTENCIES: A STUDY OF LOGIC OF MORAL CONFLICTS

Abstract

Moral conflicts are the situations which emerge as a response to deal with conflicting obligations or duties. An interesting case arises when an agent thinks that two obligations A and B are equally important, but yet fails to choose one obligation over the other. Despite the fact that the systematic study and the resolution of moral conflicts finds prominence in our linguistic discourse, standard deontic logic when used to represent moral conflicts, implies the impossibility of moral conflicts. This presents a conundrum for appropriate logic to address these moral conflicts. We frequently believe that there is a close connection between tolerating inconsistencies and conflicting moral obligations. In paraconsistent logics, we tolerate inconsistencies by treating them to be both true and false. In this paper, we analyze Graham Priest's paraconsistent logic LP, and extend our examination to the deontic extension of LP known as DLP. We illustrate our work, with a classic example from the famous Indian epic *Mahabharata*, where the protagonist Arjuna faces a moral conflict in the battlefield of *Kurukshetra*. The paper aims to avoid deontic explosion and allows to accommodate Arjuna's moral conflict in paraconsistent deontic logics. Our analysis is expected to provide novel tools towards the logical representation of moral conflicts and to shed some light on the context-sensitive paraconsistent deontic logic.

Keywords: Moral conflicts, deontic logic, paraconsistent logic, paraconsistent deontic logic, Arjuna's dilemma, context-sensitive deontic logic.

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1. Introduction

A moral conflict takes place when a person is in a situation where his moral instructions are not consistent; or specifically action-guiding in the way that he is allowed or even obliged to act on anything which is forbidden. Moral conflicts can be defined as those peculiar types of situations where a person is obliged to do various things but cannot act upon all of them together [14]. However, with the use of deontic logic axioms, moral conflicts can be represented as:

$$(OA \wedge OB) \wedge \neg \Diamond (A \wedge B)$$

where A and B are both obligatory but they are not logically compatible [8, 25]. It means, logically, it is not possible to have moral conflicts [8]. In addition, if we permit the Kantian notion 'ought implies can' then the standard definition of moral conflict seems counter-intuitive, because what is obligatory must be possible. This itself becomes a dilemma for the logics of normative propositions.

The study of how an agent rationally decides under conflicting obligations has attracted the attention of philosophers and the logicians alike. Logical interpretation of moral conflicts has remained a debatable issue in the philosophy of moral reasoning and in the area of deontic logic. In particular, the dispute concerning the possibility of moral conflicts has not been settled. The axioms of standard deontic logic (SDL) and the possibility of genuine moral conflicts are inconsistent with each other. Intuitively, we do come across genuine moral conflicts, and these conflicts need to be accommodated within the logical system. Also, there is a close connection between tolerating inconsistencies and the possibility of moral conflicts. Rather than a rejection of our moral intuitions and therefore undermining morality, we propose moral conflicts as circumstances where contradictions are both true and false together. The most plausible logic that tolerates inconsistencies is paraconsistent logics. i.e. to our consideration of both circumstances to be true together. Therefore, there is a need of appropriate paraconsistent logic that can address such inconsistencies. Paraconsistent logics improve upon classical logic because it has the scope to formalize inconsistencies. Indeed, there are number of proposals within the paraconsistent logics to address the problem of accommodating moral conflicts.

The primary focus of these proposals has been the principle of explosion, according to which, an inconsistent situation arising from tolerating moral conflicts does not lead to explosion.

The remainder of the paper is as follows. In Section 2, we take some classic examples of moral conflict from famous Indian mythological text *Mahabharata* and emphasize on contradictory obligations. In Section 3, we present the standard system of deontic logic and show how the acceptance of axioms and the possibility of moral conflicts are inconsistent. In Section 4, with connection to inconsistency tolerance, we present Graham Priest's paraconsistent logic i.e., *Logic of Paradox (LP)*. In Section 5, we extend the *LP* with an additional deontic operator *(O)*, called as paraconsistent deontic logic *(DLP)*. In Section 6, we depict Arjuna's moral conflict in paraconsistent deontic logic by avoiding deontic explosion. We argue that *DLP* would address the inconsistency tolerance, and hence moral conflicts in a better way. In Section 7, we conclude with the limitations and future work concerning context-sensitive paraconsistent deontic logics.

2. Classic examples of moral conflict from *Mahabharata*

Indian mythological text *Mahabharata* has many examples directly concerned with moral conflicts. These moral conflicts are examined all through the content by different characters in different circumstances. Let us consider a case study, where the protagonist Arjuna encounters a moral conflict, resulting from the contradictory obligations. It is the famous exemplar of moral conflict that takes place in Arjuna's mind when he arrives at the battlefield of *Kurukshetra*. On the battlefield, he sees an army consists of his masters, elders, relatives, and friends, many of whom are his dear and near ones. Seeing them at the opposite end of the battle makes him perplex and he thinks of giving up his arms to avoid the familicide and mass killing [26]. However, he was the legitimate heir of the kingdom, he is under an obligation to recover the kingdom from the Kauravas. The rule of common equity obliged Arjuna to fight the deadly battle and recapture the realm forcibly. A moral conflict is set in his psyche, and he starts to question the very legitimacy of the entire endeavor (see [6]). All things considered, whichever decision Arjuna takes, he ends up doing something obligatory from one point of view and forbidden from another.

Similarly, another example of Arjuna's moral conflict can be seen in the *Karnaparva* when Yudhishthira, Arjuna's elder brother is forced to escape the battlefield after being painfully humiliated and wounded by Karna. When Arjuna arrives, Yudhishthira angrily confronts him, claiming that he had started the fight primarily because of his faith in Arjuna and his Gandiva bow. On the other hand, even though many had been killed, the war dragged on with no apparent end in sight. Arjuna's claim to be the world's best archer was seeming void. Not only Yudhishthira taunts Arjuna but also his bow Gandiva. Arjuna must now decide whether to kill his elder brother for insulting the Gandiva or to break his vow to kill anyone who insulted the Gandiva [26]. Despite the fact that his Kshatriya dharma requires him to kill Yudhishthira, killing his own elder brother puts him in a moral conflict.

Likewise various characters showed the state of moral conflict at various places in *Mahabharata*. When Kunti, Arjuna's mother told Karna that he is her first son, this put Karna into deep mental conflict as to which side he should be on. He ought to fight for the Pandavas (Arjuna's side) since he had a duty towards Kunti, his biological mother. At the same time it was Duryodhana who gave him the status of a Ksatryia at the time of crisis. Hence he ought to fight for the Kauravas (the opposite side). Karna, therefore, was in a moral dilemma where conflicting duties were pulling him in different directions [20].

3. *SDL* with respect to moral conflicts

The emergence of deontic logic was to provide a systematic framework for valid inferences based on normative propositions. *SDL* soon became the most popular and widely studied system of deontic logic [12, 28, 13]. For the logical representation of moral propositions, *SDL* is often considered as a beginning point. *SDL* is simply the normal modal logic *KD* (i.e. the logic of the class of serial Kripke frames). The language is backed up by Kripke-style perfect world semantics, where accessibility encodes as 'is deontically better than' relation.

The language of *SDL* is just a propositional language plus a monadic operator O which means, 'it is obligatory that'. *SDL* is defined by adding the following axioms and rule of inference to propositional logic:

A1 All tautologies of propositional logic [TAUT]

A2 $O(A \to B) \to OA \to OB$ [KD]

A3 $\neg O \perp$ [OD]

MP If $\vdash A$ and $\vdash A \to B$, then $\vdash B$

RM If $\vdash A \to B$, then $\vdash OA \to OB$

D $OA \to \neg O \neg A$

EXP $(OA \wedge O \neg A) \to OB$

The key features of *SDL* is that it is straightforward, flexible, and can be stretched out with other modal operators, such that, knowledge, context, probability, and time. *SDL* is basically defined as a logic of alethic-deontic modalities or quasi-deontic ($\Box$,$\Diamond$) modalities.[1]

Despite its simplicity, *SDL* fails to account for the possibility of moral conflicts. A few of the axioms and principles of *SDL*, along with the conflicting obligations, imply that moral conflicts are truly not possible [11]. As indicated by the essential principles of *SDL*, moral conflicts are impractical. This impracticality is effectively demonstrated by the accompanying two arguments, which are broadly concentrated in the literature [5, 21, 10]. Any arrangement of logic that should apply to a wide scope of moral conflicts should accommodate these two positions. In any case, there is little agreement on how that ought to be done. Here is the reconstruction of Goble's arguments [10]:

The first argument is based on the premise that 'ought implies can', implying that anything which is obligatory must be possible;

(P) $OA \to \Diamond A$

coupled with the aggregation or agglomeration principle, as currently referred (C), that if one ought to do A and ought to do B, then one ought to do both A and B,

(C) $(OA \wedge OB) \to O(A \wedge B)$

[1]For more information on the distinction between quasi-deontic modalities and the strictly deontic modalities see [15].

The above principles (P) and (C) are commonly accepted as logically true. Then the first argument will be: Suppose that there was a normative conflict in which all of $OA_1, \ldots, OA_n$ holds for $(n \geq 2)$, but $\neg \Diamond (A_1 \wedge \ldots \wedge A_n)$ also holds. By principle (C), as stated above, $O(A_1 \wedge \ldots \wedge A_n)$ must hold, and then by (P), $\Diamond(A_1 \wedge \ldots \wedge A_n)$ must hold, a contradiction.

Therefore, there could not possibly be a moral conflict of this nature.

According to the second argument which employs rule of distribution, or necessitation, states that if A implies B then if one ought to do A then one ought to do B,

(RM) If $\vdash A \rightarrow B, then \vdash OA \rightarrow OB$

To put it another way, its modal equivalent, which states that if A necessitates B, then if one ought to do A then one ought to do B,

(NM) $\Box(A \rightarrow B) \rightarrow (OA \rightarrow OB)$

along with the principle that if one ought to do something, it does not follow that one ought not,

(D) $OA \rightarrow \neg O \neg A$

Argument second then proceeds, imagine a case, in which both OA and OB but $\neg\Diamond(A \wedge B)$. By ordinary modal logic, A necessitates $\neg B, \Box(A \rightarrow \neg B)$. Given OA, then $O\neg B$ and $O\neg B$ by (NM). By (D), however, since OB holds, $\neg O \neg B$ must also hold. Hence, both $O\neg B$ and $\neg O \neg B$, a contradiction. Thus, there could be no such moral conflict.

It is clear from arguments first and second that if there are or could be moral conflicts, at least one member of the two pairs [(P), (C)] and [(NM, (D)] must be dropped or rexamined for a particular sense of ought.

Now, if we attempt to logically formulate the Arjuna's battlefield moral conflict, we see that there are two obligations that Arjuna has to follow: He is obliged to kill the enemy because they took the kingdom unjustly. He is also obliged to not kill the enemy because they are his elders and masters and it is against *dharma*. So, here are two contradictory obligations that Arjuna faces just before the battle starts. Let us assume

1. OK as 'It is obligatory to kill the enemy'
2. $O\neg K$ as 'It is obligatory to not kill the enemy'

In the given situation, we have the following premise:

$$OK \wedge O\neg K$$

However, in *SDL*, if both A and its negation were obligatory, then it would follow that everything is obligatory. Because in *SDL*, the presence of both OA and $O\neg A$ causes deontic explosion. Deontic explosion occurs when, from any moral conflict OA and $O\neg A$, it follows that any random B is obligatory. Since *SDL* contains the principle of explosion and in such systems, the existence of moral conflicts of type $OA \wedge O\neg A$ would collapse the given system. Similarly, in Arjuna's case, $OK \wedge O\neg K$ follows any random obligation, which creates deontic explosion due to the principle of explosion. Hence, moral conflicts deontically trivialize the standard system of deontic logic.

In a nutshell, moral conflicts pose the following difficulties to deontic logic. The major issue that moral conflicts present for logic of norms is to describe how such conflicts can appear conceivable even when obviously valid deontic axioms imply that they are impossible. Accepting these principles would mean that one would not believe in moral conflicts, so one would have to come up with a way to explain the examples of apparent conflicts. If such conflicts are real, then alternatives to the basic principles of deontic logic must be provided in a manner that allows for appropriate reasoning in moral situations, as demonstrated by many paradigms, whilst preventing deontic explosion. In addition, Da Costa and Carnielli rightly pointed out in [7] that, "Moreover, the concepts and obligations found in actual moral codes involve such subtleties and imprecise notions, that they are almost certain to be not merely deontically inconsistent, but also (logically) inconsistent."

4. Paraconsistent logics as an alternative

There are several strategies to resolve the dilemma of moral conflicts. Some deny the very possibility of moral conflicts, and afterwards attempt to clarify their boundless appearance. The refusal of genuine moral conflicts may be founded on a specific reasonable examination of the significance of ought, or it may be founded on Goble's arguments first and second themselves. Instead of denying the possibility of moral conflicts, many philosophers take a different approach to solving the dilemma. Given the possibility of moral conflicts, the aim is to develop suitable principles to govern normative statements that do not make such conflicts incompatible.

It is important that such formalisms attempt to represent an agent's reasoning processes not just in the absence of conflicting information, but also in the presence of it. So, what are the proper criteria defining an 'ought logic' that would allow moral conflicts to occur? Or Lou Goble in [10] presented it more plausibly "If there are such conflicts, what must their logic look like? I wish to discern, at least in a general way, what, if anything, is a proper theory of normative reasoning that will allow for genuine conflicts. As we will see, such a logic must be different from what is generally supposed."

While exposition of alternate logics for accomodating moral conflicts an interesting possibility offered by the paraconsistent logics. The paraconsistent logics has an excellent framework for accommodating contradictory situations and moral dilemmas. Paraconsistency is based on the idea of admitting conflicting situations, such as those presented by dilemmas, and even considering such situations to be true in some circumstances. In classical logic, a true dilemma results in the system being trivial; however, in paraconsistent logic, the dilemma does not always result in the system becoming trivial. A logical system that lacks the principle of noncontradiction as an essential principle is known as paraconsistent logic. Because it is relative in this logic, the system may tolerate inconsistencies and contradictions. In classical logic, any proposition can be inferred from a contradiction. This characteristic is known as the 'Principle of Explosion', or 'ex-contradictione sequitur quodlibet', which states that anything can be deduced from a contradiction. A paraconsistent logic is distinguished by the fact that the principle of explosion is not valid in it. In contrast to classical and other logics, paraconsistent logics can be used to formulate theories that are inconsistent but not trivial [7]. Inconsistent theories can be based on paraconsistent systems while avoiding the triavility of the system. In these logics dilemmas can be modelled, operated, and separated while the underlying inference rules are still valid. In this way, paraconsistent logic shows that a logical system doesn't need to be consistent to be logical.

There are various paraconsistent logics based on different approaches like the three-valued approach, the relevance approach, the non-truth functional approach and so on [1, 24]. In this paper, we take into consideration one of the prominent paraconsistent logics based on three-valued approach, which is Graham Priest's logic LP [23], also known as *Logic of Paradox*.

4.1. The Paraconsistent logic LP

We examine Graham Priest's LP, which is complimented with an implication connective $LP^{\rightarrow}$ ([23, 18, 17]). The standard deduction theorem holds for $LP^{\rightarrow}$ (see [23]). The logical connectives in $LP^{\rightarrow}$ are as follows: negation $\neg$, disjunction $\vee$, conjunction $\wedge$, implication $\rightarrow$, and bi-implication $\leftrightarrow$. With respect to classical propositional logic, there are no changes in the formation rules for formulas in $LP^{\rightarrow}$. We consider a Hilbert style formulation [2] in which A, B, and C are the meta-variables spanning over all formulas of $LP^{\rightarrow}$. The axiom schemata of a Hilbert style formulation of $LP^{\rightarrow}$ is the following:

Axiom Schemas:

1. $A \rightarrow (B \rightarrow A)$
2. $(A \rightarrow (B \rightarrow C)) \rightarrow ((A \rightarrow B) \rightarrow (A \rightarrow C))$
3. $((A \rightarrow B) \rightarrow A) \rightarrow A$
4. $(A \wedge B) \rightarrow A$
5. $(A \wedge B) \rightarrow B$
6. $A \rightarrow (B \rightarrow (A \wedge B))$
7. $A \rightarrow (A \vee B)$
8. $A \rightarrow (A \vee B)$
9. $(A \rightarrow C) \rightarrow ((B \rightarrow C) \rightarrow ((A \vee B) \rightarrow C))$
10. $A \vee \neg A$.
11. $\neg\neg A \leftrightarrow A$

12. $\neg(A \to B) \leftrightarrow A \wedge \neg B$
13. $\neg(A \wedge B) \leftrightarrow \neg A \vee \neg B$
14. $\neg(A \vee B) \leftrightarrow \neg A \wedge \neg B$

Rule of Inference:

$(A, A \to B) \to B$

In the above axiom schemata we can see the shift of negation inwardly in the last four axiom schemas. The tenth axiom schema states the law of the excluded middle. It states that for any proposition, either that proposition is true or its negation is true.

The semantics of $LP^{\to}$ is defined as like in classical propositional logic, meanings are assigned to the formulas of $LP^{\to}$ by means of valuations. Nevertheless, a major difference comes with the addition of a third truth value b (both true and false) along with two classical truth values t (true) and f (false). A valuation for $LP^{\to}$ is a function v from the set of all formulas of $LP^{\to}$ to the set $\{t, f, b\}$ such that for all formulas A and B of $LP^{\to}$:

$$v(A \to B) = \begin{cases} t & \text{if } v(A) = f \\ v(B) & \text{otherwise} \end{cases}$$

$$v(A \wedge B) = \begin{cases} t & \text{if } v(A) = t \text{ and } v(B) = t \\ f & \text{if } v(A) = f \text{ or } v(B) = f \\ b & \text{otherwise} \end{cases}$$

$$v(A \vee B) = \begin{cases} t & \text{if } v(A) = t \text{ or } v(B) = t \\ f & \text{if } v(A) = f \text{ and } v(B) = f \\ b & \text{otherwise} \end{cases}$$

$$v(\neg A) = \begin{cases} t & \text{if } v(A) = f \\ f & \text{if } v(A) = t \\ b & \text{otherwise} \end{cases}$$

As we notice that there are no changes in terms of classical conditions with respect to logical connectives, be it true or false. The significant difference appears when it comes to the implication connective where it is both true and false when it cannot be true or false in terms of classical truth conditions. Understandably, the three-valued logical system $LP^{\rightarrow}$ gives way for a new logical representation of connectives where each n-ary connective ranges from $\{t, f, b\}^n$ to $\{t, f, b\}$.

For $LP^{\rightarrow}$, the semantic logical consequence relation is denoted by $\models_{LP^{\rightarrow}}$, is based on the idea that a valuation v satisfies a formula A if $v(A) \in \{t, b\}$. It can be understood as: $\Gamma \models_{LP^{\rightarrow}} A$ iff for every valuation v, either $v(A') = f$ for some $A' \in \Gamma$ or $v(A) \in \{t, b\}$. We have $\Gamma \vdash_{LP^{\rightarrow}} A$ iff $\Gamma \models_{LP^{\rightarrow}} A$, which means the above mentioned formulation of $LP^{\rightarrow}$ is strongly complete with respect to its semantics [3].

5. Paraconsistent deontic logics

As we have seen in section 3 that moral conflicts are the kinds of propositions that are inconsistent in nature. In paraconsistent logics, these kinds of propositions are valid or do not lead to explosion. Therefore, a deontic logic based on these logics can be treated as a way out for tolerating moral conflicts. Here we take paraconsistent deontic logic $DLP^{\rightarrow,F}$ based on $LP^{\rightarrow,F}$ discussed in [22].

Apart from containing all the connectives of $LP^{\rightarrow,F}$, $DLP^{\rightarrow,F}$ consists of an additional connective as obligation connective O. It is also known as deontic operator. By adding axiom schema $F \rightarrow A$ and the following deontic axioms along with the rule of inference (RL1) to $LP^{\rightarrow}$, one can get the Hilbert-style formulation of $DLP^{\rightarrow,F}$.

Axiom Schemas:

A1 $O(A \rightarrow B) \rightarrow (OA \rightarrow OB)$

A2 $OF \rightarrow F$

Rule of Inference:

RL1 A is theorem $\Rightarrow OA$ is a theorem

The standard deduction theorem holds in $DLP^{\rightarrow,F}$ as in $LP^{\rightarrow}$. The semantics of $LP^{\rightarrow}$ is based on classical logic semantics, whereas $DLP^{\rightarrow,F}$ semantics is based on modal logic semantics.

A Kripke structure for $DLP^{\rightarrow,F}$ is a triple (W, R, v) where:

1. W is a non-empty set of possible worlds,
2. $R \subseteq W \times W$ is an accessibility relation for which it holds that for all $w \in W$ there exists a $w' \in W$ such that wRw',
3. v is a function from the cartesian product of the set of all formulas of $DLP^{\rightarrow,F}$ and the set W to the set $\{t, f, b\}$ such that for all formulas A and B of $DLP^{\rightarrow,F}$:

Given a Kripke structure (W, R, v), for $DLP^{\rightarrow,F}$, the logical consequence relation satisfies a formula A if $v(A, w) \in \{t, b\}$ for all $w \in W$. We have that $\Gamma \vdash_{DLP^{\rightarrow,F}} A$ iff for every three-valued Kripke structure (W, R, v) and $w \in W$, either $v(A', w) = f$ for some $A' \in \Gamma$ or $v(A, w) \in \{t, b\}$.

$$v(A \rightarrow B, w) = \begin{cases} t & \text{if } v(A, w) = f \\ v(B, w) & \text{otherwise} \end{cases}$$

$$v(A \wedge B, w) = \begin{cases} t & \text{if } v(A, w) = t \text{ and } v(B, w) = t \\ f & \text{if } v(A, w) = f \text{ or } v(B, w) = f \\ b & \text{otherwise} \end{cases}$$

$$v(A \vee B, w) = \begin{cases} t & \text{if } v(A, w) = t \text{ or } v(B, w) = t \\ f & \text{if } v(A, w) = f \text{ and } v(B, w) = f \\ b & \text{otherwise} \end{cases}$$

$$v(\neg A, w) = \begin{cases} t & \text{if } v(A, w) = f \\ f & \text{if } v(A, w) = t \\ b & \text{otherwise} \end{cases}$$

$$v(F, w) = f$$

$$v(OA, w) = \begin{cases} t & \text{if for all } w' \in W \text{ with } wRw',\ v(A, w') = t \\ f & \text{if for some } w' \in W \text{ with } wRw',\ v(A, w') = f \\ b & \text{otherwise} \end{cases}$$

It is clear from above that there is no change in the truth and falsehood-conditions for the logical connectives $\to, \wedge, \vee$ and $\neg$ for $DLP^{\to,F}$ in comparison to $LP^{\to}$, except in case of obligation connective. The obligation connective shows the modal feature of $DLP^{\to,F}$. By definition, which is taken from [22], $DLP^{\to,F}$ is a deontically paraconsistent logic, i.e. there exist sets Γ of formulas of $DLP^{\to,F}$ and formulas A of $DLP^{\to,F}$ such that not for all formulas B of $DLP^{\to,F}$, $\Gamma \cup \{OA, O\neg A\} \vdash_{DLP^{\to,F}} OB$. Analogously, it can be proved that b is not derivable from $(Oa, O\neg a)$ in $DLP^{\to,F}$.

The combination of paraconsistent and deontic logics also explicitly occurs in [4], where an adaptive extension of paraconsistent deontic logic is presented. It is claimed as a rather strong logic compare to $DLP^{\to,F}$, and it also accounts for all inferences that are valid in *SDL*.

6. Arjuna's conflict in paraconsistent deontic logic

If we take Arjuna's moral conflict in paraconsistent deontic logic $DLP^{\to,F}$, it can be easily tolerated and appropriately formulated. $DLP^{\to,F}$ is an inconsistency tolerant logical system which provides a treatment for moral conflicts to deontic logicians. Unlike *SDL*, the presence of contradictory obligations does not cause deontic explosion in $DLP^{\to,F}$.

In Arjuna's case, the obligation to kill the enemy (OK) and the obligation to not kill the enemy $(O\,\neg K)$ cause to occur any random obligation Q in *SDL*, which can be anything. We must prevent such kind of strange obligation to arise and to show that these kind of inconsistent obligations are logically possible. This is what motivates a paraconsistent approach for tolerating moral conflicts in deontic logic. Since $DLP^{\to,F}$ rejects the principle of explosion, for Arjuna, any random obligation does not take place. Moreover, the valuation for OK in $DLP^{\to,F}$:

$$v(OK, w) = b \text{ if for all } w' \in W \text{ with } wR\,w',\ v(K, w') = b$$

Similarly, the valuation for $O\neg K$:

$$v(O\neg K, w) = b \text{ if for all } w' \in W \text{ with } wR\,w',\ v(\neg K, w') = b$$

Therefore, the valuation for a formula $(OK \wedge O\neg K)$ in $DLP^{\rightarrow,F}$ is

$v(OK \wedge O\neg K, w) = b$ (i.e. both true and false) if for all $w' \in W$ with wRw', $v(OK, w') = b$ and $v(O\neg K, w') = b$

Since b is a designated value in $DLP^{\rightarrow,F}$; the value which is preserved in valid inference, the formula $(OK \wedge O\neg K)$ holds in $DLP^{\rightarrow,F}$. It is satisfied by a valuation such that $v(w, K) = b$, for any accessible world w. Consequently, it does not lead to triviality, and despite collapsing the whole system, it admits contradictory obligations. It means that moral conflicts are genuine; it is possible to logically accommodate inconsistent moral obligations in $DLP^{\rightarrow,F}$. Hence, Arjuna's battlefield dilemma is efficiently demonstrated in $DLP^{\rightarrow,F}$. One can easily observe a connection between the present approach i.e. multiple truth values and the multiple deontic values approach where the deontic value c regarded as 'both obligatory and forbidden' at the same time in order to get deontically neutral system (see [19]).

6.1. Krishna's argument in $DLP^{\rightarrow,F}$

In this dramatic situation of battlefield when Arjuna was crippled with emotions, Lord Krishna (the most powerful character in *Mahabharata*), intervenes and shows a path to Arjuna. Krishna says that, it is possible that there is a conflict between obligations, but there is a solution too. Like an ordinary mathematical puzzle, for which solutions are there but we have to look for the right one [27]. Krishna resolves the conflict in Arjuna's mind by distinguishing between *sadharana dharma* and *vishesh dharma*, which is basically duties in ordinary situation and duties in extraordinary situation, respectively. In ordinary situation, one has to fulfill all his duties and obligations, i.e., in this context, obligation to not kill elders, masters, and friends. But in extraordinary situation, one has to follow what is obligatory in that particular situation or context, i.e., *vishesh dharma*. According to *vishesh dharma*, Arjuna has the obligation to kill his elders, masters, and friends because in the context of war it is righteous to kill the enemy, no matter who they are. Krishna argues that *dharma* by its very nature cannot be static. He adds that considering the context of war, Arjuna has to overcome the conflict and practice his *vishesh dharma*. Here interestingly, a similar reason is demonstrated in [9], that if a moral conflict arising from two normative sources like in Arjuna's conflict, instead it is in principle possible to act either in accordance with one or in accordance with two, though it is not possible to act in accordance with both; thus, one has to adopt a general criterion of preference among normative sources.

Given Krishna's argument, choosing one obligation over other is crucial for logical interpretation. To understand how agents choose one moral obligation over others, we require to impose suitable constraints on the resulting logics by means of context-sensitivity. Further research includes the extension of the paraconsistent deontic logic $DLP^{\rightarrow,F}$ to a context-sensitive paraconsistent deontic logic $DLP^{\rightarrow,F}$. Based on the notion of consistency there could be considerations for three cases: 1. *Ideal worlds* 2. *Real worlds* and 3. *Context-sensitive ideal worlds*. The logical system $DLP^{\rightarrow,F}$ is limited to the ideal world related to the actual world. It is founded on the basic dichotomy between what is ideal and what is actually the situation. In *SDL*, if something is true in the ideal world, it is obligatory in the real world. The ideal is something that agents should strive for. To understand what to do, an agent merely needs to examine the ideal. Evidently, obligations are occasionally broken. As a result of a violation, the ideal is no longer attainable since the actual begins to diverge from the ideal. Inspection of the ideal is no longer necessary if an agent wants to know what he should do. However, he takes into account a situation that comes as close to the ideal as is possible and that can yet be achieved despite the violation. That is, he thinks of an ideal state. This optimal state can be achieved if we consider context-sensitive ideal world instead of the ideal world. In the state of violation of one obligation, the agent tries to fulfill another obligation which is the closest to the first obligation.

7. Conclusion and future work

In this paper, we studied the missing link between inconsistency tolerance and the situations involving moral conflicts. We started with the received view, i.e., *SDL* and shown that it falls short of intuitive understanding of moral conflicts. Since paraconsistent logics are the best-known logics to tolerate inconsistencies, we studied Priest's paraconsistent logic *LP* in the context of moral conflicts. Due to relative merits of *LP* logics, we considered the hybrid logics involving *LP* and *SDL*, and we called it *DLP*. It is within this *DLP* we attempted to understand the Arjuna's conflict. As opposed to classical propositional logic, the three valued logic satisfactorily treated the philosophical issues concerning contradictory obligations.

Though DLP, as presented here, is limited to the ideal world related to the actual world. We propose, indeed a novel conceptualization of the *context-sensitive* account of DLP. Intuitively, a context-sensitive ideal world can be understood as a world, that has a similar contextual situation as in the real world, yet it should be ideal too or related to the ideal world. For instance, if some proposition is true in the ideal world, it is not necessarily true in a contextually-related ideal world because the truth of the proposition is based on the context in the real world. So far, in DLP, if something is true in ideal world, it is obligatory in the real world. But it is not the case always because we argue that moral propositions are context sensitive.

One of the main challenges for this is to provide an appropriate relational justification between the real world and the proposed world. Some kind of similar justification is given in [16], where the 'relating relation' enables to express that two normative propositions, from the point of view of the given normative system, are connected. Hence, there is a need to find out some ideal world with the same context to the real-world, i.e., contextually-related ideal world. It can be summarized as: what should we ideally do in the context similar to real-world or in that particular context, what should be the ideal case?

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