
Deontic ‘cocktail’ according to E. Mally’s receipt¹

ELENA N. LISANYUK

ABSTRACT. In 1926, Ernst Mally, an Austrian logician, has introduced a system of deontic logic in which he has proposed three fundamental distinctions which proved to be important in the context of the further development of the logic of norms. It is argued that in his philosophical considerations Mally has introduced a number of important distinctions concerning the very concept of norm, but by getting them confused in introducing the subsequent formalisms he failed to formally preserve them. In some of his philosophically made distinctions Mally apparently foresaw contemporary trends in logic of norms. To some extent this particular feature of Mally’s system open wide opportunities to reconstruct — with the corresponding renovations — his ill-formed Deontik into many nowadays known systems of logic of norms and thus provides a fertile ground for this kind of research.

Keywords: deontic logic, Mally, agency, ought, obligation

1 Introduction

Conceptual considerations about developing a special kind of logic capable to model norms and reasoning about norms date back at least to the Middle Ages, but it was not until von Wright’s deontic systems have been introduced in 1951 that the first a viable and sound system of deontic logic was proposed. Standard von Wright-type deontic logic which was thus launched has developed into one of the most significant trends in the area of logic of norms, although not without being criticized [2], [3]. Among those criticisms, the most troublesome seemed to be the so called paradoxes of absolute

¹Research is supported by the Russian Foundation for Basic Research, project № 11-06-00206.

deontic logic that targeted one of the central concepts of standard deontic logic, namely the concept of deontically perfect state of affairs, the one in which all norms are assumed to be fulfilled [4, p. 401]. Today, when diverse trends in this area have emerged, these paradoxes are regarded to be characteristic rather of the type of deontic system, than of the logic of norms as a part of contemporary logic [7, p. 172].

As a logical investigation of normative reasoning, or reasoning in the framework of normative systems, logic of norms is constantly moving towards more adequate norms understanding which is obtained in the framework of their formal representation. In the very beginning of its development, the goal of norms' formal representation was thought to be achieved by means of deontic calculi, that later have been supplemented by standard semantic structures, which yet later has proved to be in many aspects inadequate [5, p. 148]. Contemporary normative formalisms tend to regard semantic aspects of norms as more fundamental than inferential relations among them.

Both the structure of norm and as well as the relations established between the elements of it are assumed as relevant for being modeled by means of a logical theory. For this reason, they form one of the key issues in defining norm in the sense of logic. Norms consist of four basic elements [4, p. 380]:

- 1) actions, or states of affairs, which can be;
- 2) (according to norm character) allowed, prescribed or prohibited from being performed by agents;
- 3) agents as subjects of norms;
- 4) conditions (actions or states of affairs) for norms' emerging or ceasing.

Deontic logic proper regards (1) and (2) as more fundamental for logical investigations about norms and for this reason it may be called 'objectivist' trend in the logic of norms. Deontic logic pursues logical aspects of the relations between (1) and (2), on the one hand,

and norms’ obedience or disobedience, on the other. This ‘objectivist’ approach relies to a large extent on an assumption that proper understood norms are impersonal timeless absolute (condition-free) regulations. In this way, norms, when they are obeyed, generate a normatively ideal (perfect) state of affairs, or deontically ideal world. According to the deontic approach, norms proper may enter conditional regulations becoming thus the elements of them together with (3), (4), temporal, epistemic and other modalities, but this fact does not preclude deontic theories from studying their central concept of normative relation between (1)–(2) and deontically perfect worlds.²

Indeterministic agent-dependent logic of norms regards issues (3)–(4) as more significant than (1)–(2) and is a major contemporary rival of deontic logic. Norms’ analysts belonging to this trend see the relation between agent, (3), and its strategy in goal-oriented activities as key issue for studying human beings’ normative behavior in which deontically understood norms (1)–(2) form a correlative element of agent’s strategy. Indeterministic logic of norms stems out of von Wright’s ideas of logic of action [3] and A. Prior’s theory of branching time [17], [18] and is being developed in the works of J. Horty [11], N. Belnap [9] and others.

Indeterministic logical theories of obligation introduce special *stit*-operator of agency which may be understood in different ways depending on the interpretations of concepts of history, time and moment [8], all of them are related to agent’s actions. These theories incorporate two important ideas concerning logical analysis of agency. The first is that of agent’s ability to do something as closely related to both what an agent ought to do and what should have done. J. Horty calls it Meinong\Chisholm analysis and reports that it can be traced back to the works of some German and Austrian philosophers [11, p. 44–46]. The other one explicitly marks the borderline distinction between SDL altogether with its further developments and indeterministic theories and proposes the concepts of branching time and corresponding linear histories as intrinsic to agent’s behavior in such a way that the latter is assumed to be dependent of agent’s previously made choices in the way that it secures

²See [7] for a substantial exposition of deontic logic proper.

its freedom in what concerns its future choices. Contrary to that, SDL as well as its contemporary versions rely on certain determined future state of affairs thus leaving no room for agent's future choices otherwise than being caused by those previously made.

In this paper, some arguments are proposed to support of the idea that Austrian logician Ernst Mally should be added to the list of those German-speaking philosophers whose conceptual considerations of the issue gave rise to the idea of agent-dependent normativity. It is also suggested that in his *Deontik* Mally was the first to introduce a deontically understood agential ought as distinct from agent-free impersonal obligation, though, apparently, did it in somewhat vague way.

2 Who is Mally?

Ernst Mally (1879–1944), an Austrian logician, a pupil of Alexius Meinong and the author of several philosophical writings, was born in Slovenia which then has been a part of Austro-Hungarian Empire. In 1926 Mally published a book *Grundgesetze des Sollens: Elemente der Logik des Willens* ('The Basic Laws of Ought: Elements of the Logic of Willing') [16] in which he proposed a logical theory which happened to become the first approach to formulate a system of deontic logic. Ernst Mally called his theory *Deontik* and thus became the author of the both, the first system of deontic logic and the term for this branch of logic.

As a viable formalism, his system has proved to be unsuccessful. Mally's book is almost 100 pages long but the chapter in which the calculi is proposed is hardly longer than 15 pages and then throughout other 15 pages 35 theorems are given followed by concise explanations. In the rest of his book, Chapters III and IV, he pursues the surprising consequences his system yields. In doing so he notoriously tries to show that the reason for those strange consequences to follow has to be looked for not in the axiomatic basis of the system, but instead in the properties of logic of obligation and will itself, or in the idea of pure ethics which he advocates in his book.

E. Mally held very radical national socialist views during the whole of his life. He was a teenager when he has joined one of Austrian radical movements, later he became a member of an Austrian radical society that have been supporting the idea of the Anschluss of Austria to Germany even before the World War I, and joined NSDAP immediately after it had happened. He was an active Nazi-party member and in most of his papers written during the last decade of his life he argues for the Nazi ideology [22].

Yet despite these ‘hard’ facts of his biography his philosophical and logical heritage never fully went into oblivion as one may well be inclined to think. His intellectual life is usually divided into 3 stages. The first stage was devoted to the object theory [21], [6]. During the second Mally studied various philosophical issues sometimes with the help of the object theory, and the third saw his politically oriented writings. The book in which his Deontik is proposed belongs to the second period and was written before he has started to pursue his political activities also in the philosophical papers. Despite the fact that his system has turned out to be ill-formed, and, perhaps even because of it, Mally’s deontic logic remained being mentioned whenever the issue of the starting point of the development in this area of deontic logic has been touched. However, in most cases the mentioning is being done in the sense of unsuccessful start.

Unlike his teacher, A. Meinong, Ernst Mally has founded no philosophical school, yet he had several pupils. One of them, Karl Wolf, in collaboration with his pupil, Paul Weingartner, in 1971 prepared and published the modern edition of E. Mally’s *Grundgesetze des Sollens: Elemente der Logik des Willens* [16] with the substantial philosophical foreword.

The company of Mally’s critics includes many outstanding logicians that have essentially contributed to the field of logic of norms: K. Menger, who was the first to attack Deontik, G.von Wright [2], [3]; D. Follesdal and R. Hilpinen [10], J. Wolensky [20]. O. Weinberger [19] suggests an outline of Mally’s system; J.-G. Lokhorst proposed several reconstructions of Mally’s *Deontik* along with some critical renovations [12], [13], [14], [15].

According to most of them, there are three main reasons responsible for Mally’s logical failure. As Lokhorst summarizes them in [12] these are (1) the classical two-valued propositional calculus which forms the non-deontic part of Mally’s system and (2) the fact that some deontic axioms are vague and need modifications, and (3)

both (1)–(2). (1) is the issue particularly criticized by K. Menger, and is also touched upon by Lokhorst, too:

If Mally's deontic principles are added to a system in which the so-called paradoxes of material and strict implication are avoided, many of the 'surprising' theorems (such as (34) and (35)) are no longer derivable and $A \leftrightarrow !A$ is no longer derivable either. But most of the theorems which Mally regarded as 'plausible' are still derivable. The resulting system is closely related to Anderson's relevant deontic logic [12].

3 Mally and Jorgensen's dilemma

Throughout his book Mally neither explicitly specifies the non-deontic part of his system, nor he accepts any propositional tautologies as belonging to his system. Thus, it would be unfair to maintain as Lokhorst does [12] that Mally proposes a (classical) propositional basis for his system in the way von Wright or later deontic logicians did and that has become quite standard in the second half of XX century [5].

Instead, we find a number of philosophical explanations concerning the nature of implication from which one may conclude that he clearly distinguishes his system as the logic of what is thinkable (*Denklogik*) or the object logic (*Gegenstandlogik*) from the system suggested in *Principia Mathematica* by Russell and Whitehead.³ He holds the view that the latter describes the logical relations between propositions understood as propositional functions and calls it logistics (*Logistik*) [16, p. 236, 320 (notes 4–6)]. Mally purports to make this distinction as sharp as possible, especially in the chapters III and IV of his book where he notoriously advocates his ill-formed system. In doing so he believes that willing and obligatoriness are conceptual objects that have their special logic which is different from what he calls logistic [16, p. 237]. Unfortunately, whereas in his philosophical explanations Mally indeed draws this distinction between the two kinds of logic, in his formalism he gets them confused. This is one of several confusions made in the *Deontik* that apparently led to the failure of the system.

³See also [6] on this point.

Another confusion in his book follows immediately out of the one just discussed. In the same way as with the kinds of logic, Mally says that a rigor distinction should be made between the kinds of implications that hold in case of propositions and in case of objects, or states of affairs (*Sachverhalt*), respectively. *A impliziert B* (*A implies B*)⁴ and *A fordert B* (*A demands B*)⁵ are distinct from each other and are meant to be propositional and normative respectively.⁶ The former is apparently truth-functional and close to what one may call material implication, whereas the latter looks more like formal implication [16, note 31]. Consequently, in what concerns (1) Mally did go wrong but not in the way diagnosed by K. Menger or J.-G. Lokhorst, but rather in the other way round. He has put the two distinct types of inferential relations into one system and thereby has got different ontological assumptions confused, and he did so by applying the truth-functional propositional patterns of logical inferences to propositions he himself takes in different, sometimes prescriptive, sense.

It seems that in these wrongly understood inferential relations among propositions expressing norms Mally indeed had been the first to overlook the problem [2, p. 291] which later has been called

⁴The relation of implication is a relation between propositions describing two states of affairs, A and B respectively, that are understood or take place in such a way that A implies B, but this relation is not the one to be found between propositions expressing what is being thought or willed or ought to be, explains E. Mally before he turns to outline his system. From the fact that the state of affairs A does not happen any other state of affairs follow and an actual state of affairs is implied by whatsoever state of affairs [16, p. 238–240].

⁵'When something is being desired, everything in absence of which this volition may not realize, is being also desired. This is the essence of the volition.' [16, p. 246]. 'It lies in the very essence of willing that willing is just willing whatsoever that willing implies. . . It has happened to everyone that in some unforeseen circumstances in which one finds oneself to be obliged to apologize for one's undesired behavior it is natural to say that one did not know the consequences if his or her actions, but should have thought that this undesired thing would happen' [16, p. 273].

⁶The fact that these are distinct is obvious in his definition of connective *f*: $A \text{ f } B = A \rightarrow !B$, and in Axiom III: $(A \text{ f } B) \leftrightarrow !(A \rightarrow B)$. With the help of these Mally suggests the way how they can be expressed in terms of each other. It is also clear that he sees the right parts of the two as equipollent, taking so far their equipollency as innocuous for his system.

Joergensen's dilemma. Norms' analysts widely recognize this dilemma which amounts to the following. The practice of defining logical consequence in terms of satisfiability rests on the assumption that truth values are necessary properties of propositions describing states of affairs. Contrary to descriptive propositions, prescriptively taken norms lack truth value. Consequently, either no logic of norms proper is possible, or the idea of truth value based on the concept of satisfiability of propositions needs reconsideration. Most results in logic of norms so far have been acquired in the framework of the latter line.⁷

4 Willing, obligatoriness and norms in Mally's system

What concerns (2) Lokhorst suggests three sound reformulations of Mally's system and does so by proposing alternative non-deontic bases that enrich Mally's authentic system with additional postulates as well as by modifying some of Mally's original axioms. Lokhorst's reconstructions result respectively in two versions of RD, a relevant deontic system with the system R as its non-deontic part [12] and RD with a propositional constant of andersonian type [15], and KD, a version of standard von-Wright-type deontic system [12].

Mally has in mind three different concepts of what obligatoriness may mean when applied to a state of affairs, to a conceptual (intentional) object and to a relation among them respectively. Whereas the first and the third may be called norms in some sense, the second definitely may not, for it is meant to express Mally's philosophical idea of rationally put human will which in order to be feasible should be understood as a conceptual object and, consequently, as a logically consistent object. Mally suggests his system for the sake of showing how these distinct concepts logically relate to each other, and obviously fails on this point because gets the three formally confused.

Mally is aware of the fact that the three are distinct and holds the view that each of them requires different logic. The idea that

⁷For a survey of the development of logic of norms see [4]. [5] suggests an outline of the development of the concept of norm in the framework of logic of norms.

the relations between norms and the propositions expressing the conditions for them as well as norms' obedience or disobedience are non-truth-functional is plain in what Mally says when trying to justify the 'strange' consequences' his system yields. He is also very accurate in distinguishing the types of implications, namely, formal and material, especially when speaking of logical dependencies between the three.

5 Mally's *Deontik*

The non-deontic part of Mally's system consists of the sentential letters A, B, C, P and Q; the sentential variables M and N (these two groups of symbols refer to states of affairs); the sentential constants V (the *Verum*, Truth) and Λ (the *Falsum*, Falsity); the propositional quantifiers \exists and \forall , and the connectives \neg , $\&$, \vee , \rightarrow and \leftrightarrow . Λ is defined by $\Lambda = \neg V$.

The *deontic* part of Mally's vocabulary includes the unary connective $!$, the binary connectives f and ∞ , and the sentential constants \cup and \cap . He supplies the *deontic* part of his system with the following definitions:

Def. f . $A f B = A \rightarrow !B$.

Def. ∞ . $A \infty B = (A f B) \& (B f A)$

Def. \cap . $\cap = \neg \cup$

There are five axioms in Mally's system. They are given in the Table together with original Mally's symbolisms and Lokhorst's formalizations of them.

	Basic principles	Mally's formalization	Lokhorst's formalization
i	<i>If A requires B and if B then C, then A requires C.</i>	$((A f B) \& (B \rightarrow C)) \rightarrow (A f C)$	$((A \rightarrow !B) \& (B \rightarrow C)) \rightarrow (A \rightarrow !C)$
ii	<i>If A requires B and if A requires C, then A requires B and C.</i>	$((A f B) \& (A f C)) \rightarrow (A f (B \& C))$	$((A \rightarrow !B) \& (A \rightarrow !C)) \rightarrow (A \rightarrow !(B \& C))$
iii	<i>A requires B if and only if it is obligatory that if A then B.</i>	$(A f B) \leftrightarrow !(A \rightarrow B)$	$(A \rightarrow !B) \leftrightarrow !(A \rightarrow B)$

iv	<i>There is an unconditional-ly obligatory which is obligatory.</i>	$\exists U !U$	$!U$
v	<i>The unconditionally obligatory does not require its own negation.</i>	$\neg(U f \cap)$	$\neg(U \rightarrow !\cap)$

Mally derived the following theorems from his axioms [16, pp. 252–269].

- (1) $(A f B) \rightarrow (A f V)$
- (2) $(A f \Lambda) \leftrightarrow \forall M (A f M)$
- (3) $((M f A) \vee (M f B)) \rightarrow (M f (A \vee B))$
- (4) $((M f A) \& (N f B)) \rightarrow ((M \& N) f (A \& B))$
- (5) $!P \leftrightarrow \forall M (M f P)$
- (6) $(!P \& (P \rightarrow Q)) \rightarrow !Q$
- (7) $!P \rightarrow !V$
- (8) $((A f B) \& (B f C)) \rightarrow (A f C)$
- (9) $(!P \& (P f Q)) \rightarrow !Q$
- (10) $(!A \& !B) \leftrightarrow !(A \& B)$
- (11) $(A \infty B) \leftrightarrow !(A \leftrightarrow B)$
- (12) $(A f B) \leftrightarrow (A \rightarrow !B) \leftrightarrow !(A \rightarrow B) \leftrightarrow !\neg(A \& \neg B) \leftrightarrow !(\neg A \vee B)$
- (13) $(A \rightarrow !B) \leftrightarrow \neg(A \& \neg!B) \leftrightarrow (\neg A \vee !B)$
- (14) $(A f B) \leftrightarrow (\neg B f \neg A)$
- (15) $\forall M (M f U)$
- (16) $(U \rightarrow A) \rightarrow !A$

- (17) $(U \text{ f } A) \rightarrow !A$
- (18) $!!A \rightarrow !A$
- (19) $!!A \leftrightarrow !A$
- (20) $(U \text{ f } A) \leftrightarrow (A \infty U)$
- (21) $!A \leftrightarrow (A \infty U)$
- (22) $!V$
- (23) $V \infty U$
- (23') $V \text{ f } U$
- (24) $A \text{ f } A$
- (25) $(A \rightarrow B) \rightarrow (A \text{ f } B)$
- (26) $(A \leftrightarrow B) \rightarrow (A \infty B)$
- (27) $\forall M (\cap \text{ f } \neg M)$
- (28) $\cap \text{ f } \cap$
- (29) $\cap \text{ f } U$
- (30) $\cap \text{ f } \Lambda$
- (31) $\cap \infty \Lambda$
- (32) $\neg(U \text{ f } \Lambda)$
- (33) $\neg(U \rightarrow \Lambda)$
- (34) $U \leftrightarrow V$
- (35) $\cap \leftrightarrow \Lambda.$

6 ‘Surprising Consequences’ and conceptual objects

Mally sees his theorems (1), (2), (7), (22) and (27)–(35) as ‘surprising’ (*befremdlich*) or even ‘paradoxical’. Of these, (34) and (35) are reported to be the most surprising of his surprising theorems. Some of Mally’s explanations concerning the reasons for calling these theorems surprising are also puzzling [12]. Mally’s reasons for calling some of his theorems surprising will not be discussed here.

The fact that theorems (23), (34) and (35) are derivable in Mally’s system is clearly fatal for it. It has been pointed to by many *deontic* logicians, f.i. Menger, von Wright, Follesdal and Hilpinen, and Lohkorst. Definitely, the system that states, for instance, that every factual state of affairs is obligatory and what is obligatory is the case (34) has no chance to be accepted as a viable system. This totally unacceptable result has a number of confusions as its background and Mally’s peculiar idea of what a fact is also belongs to them.

Mally believes that state of affairs, fact and object are distinct from one another. A state of affairs may be taken to be the meaning of a sentence which expresses the corresponding judgment (*Urteil*) but in this case the sentence is different from the proposition taken as propositional function. It is in the former sense that a proposition should be referred to as true (*Tatsachen*)⁸ or not true (*Untatsachen*), and this is distinct from how it is referred to in propositional logic, or the theory he calls logistic. ‘*The concept of factual state of affairs (Tatbestand) lies in the background of the concept of implication, and is a very important concept of thought; it cannot be grasped unless applied to*’ [16, p. 289].

Mally insists that logistic is a logic of propositional, or linguistic forms, and is not logical theory proper, for propositional forms themselves never become available for evaluation as being true and false unless some facts, or actual states of affairs, are understood

⁸Mally significantly avoids speaking of truth (*Warheit*) and truthfulness in his book. The reason for this may be that he has in mind a kind of intensional semantic presuppositions for his system. This may serve an appropriate explanation for the fact that in more or less the same significant way Mally obviates anything analogous to truth-functional logical semantics traditionally used in propositional logic. In doing so he seems to understand such semantic presuppositions as extensional and thus divergent from the semantic presuppositions his object theory requires.

as being described by them. ‘*This is how the same rules are used for indefinite descriptions of states of affairs and for real facts that indeed may differ from one another*’ [16, p. 236]. In other words, Mally explicitly points that to say that a proposition is true is not the same as to say that it describes what is the case, for whereas being true as well as being not true are normally considered to be properties of a proposition, describing what is the case is a property of thought. The idea that our understanding of facts always occurs after the facts themselves occur makes the regularities we notice in material world obsolete, warns Mally in the Foreword of his book. However, notwithstanding that it has occurred as a material truth, once we make a conclusion that something is the case we take the latter as formally necessary (*richtig*). It is in this sense that Mally sees judgment and willing as formally necessary whenever the two meet in fact [16, p. 229].

This is how Mally arrives at his three-fold distinction. There are two groups of entities: propositions which in Mally’s version are (contingent) linguistic forms, and states of affairs (*Sachverhalte*) which are kinds of conceptual objects capable of having factual counterparts and which are referred to by sentential variables in the non-deontic part of his system. The states of affairs fall into true and not true.

Throughout chapters I–II Mally diligently avoids telling what true or non-true states of affairs are. His key idea is that logic is a theory about intensionally understood states of affairs (*Sachverhalte*) and thoughts (*Denken*), and it is lies in the very concept of correct thought (*richtige Denken*) that it should grasp and model states of affairs and do so in order to unveil the nature of relations between the states of affairs and conceptual objects (*Gegenstande*) [16, p. 231]. Because applying a thought to a state of affairs in different empirical cases may yield diverse results [16, p. 233], logic should start with investigating what correct thought is. True (*Tatsache*) states of affairs are those which are referred to by correct thought. It is the relation between the two sorts of conceptual objects that Mally places in the center of his peculiar ‘truth theory’, namely

between what is thought to be a state of affairs and a conceptual object that is meant to correspond to it.⁹

7 Formalisms for conceptual objects

At this point one may easily notice the need for adequate symbolization for this three-fold division in the non-deontic part of Mally's system, and elementary first-order predicate logic seems to be an appropriate candidate for this. In fact, Mally does an explicit step towards using (monadic) predicate logic when proposing sentential letters as symbols for states of affairs (*Tatbestand*), sentential variables for any state of affairs whatsoever (*Sachverhalt*) and sentential constants V and for true (*Tatsache*) and Λ for not true (*Untatsache*) states of affairs. According to him, the relation between factual (*Falle x*) and conceptual states of affairs ($B(x)$) (*Sachverhalte*) is expressed in the judgment (*Urteil*) of the form

There is at least one x , for which $B(x)$ is the case,

which may be evaluated as true or not true and which can be reformulated so as to include all or some x respectively [16, p. 236–237]. Throughout chapter I he indeed tries to use sentential variables as quantifiers but never goes beyond this point. Unfortunately, already in these symbolisms his three-fold distinction turns *de facto* to be expressed with the help of sentential variables only and thus gets formally collapsed.

However, this is not the only confusion in the non-deontic part of Mally's system. Having introduced the idea of different relations that hold between facts and between conceptual objects Mally apparently should have suggested some symbolisms that would exhibit the difference. His attempts towards doing so are seen in the fact

⁹There should be a way of distinguishing between the two in order to establish a sort of correspondence between these kinds of conceptual objects which are clearly distinct for Mally. The borderline has to be looked for in Mally's object theory [22]. Conceptual objects do not necessarily instantiate the properties they consist of; the former may be vague and logically inconsistent with respect to the latter. The fact that such an intensional object matches its factual instantiation is derivative from the fact that the object is sound in logical sense [21].

that he introduces material implication which is meant to hold between states of affairs, $A \rightarrow B$, and a kind of formal implication, $A \text{ f } B$, which may be interpreted as the deontic version of standard (alethic) formal implication, according to Def. f. Recalling now that there is a confusion among kinds of objects expressed with the help of sentential variables, letters and constants one gets a confusion with connectives as derived out of the sentential confusion. There seems to be a dilemma: drop the three-fold division and replace it with just one object, either propositional or conceptual, or abandon the functional distinction material\formal for implication. Had Mally chosen either of the two lines for constructing the non-modal part of his system, this would have prevented it from the collapse just discussed. Disregarding the former and adopting the latter would result in a system of formal implication; following the opposite line, namely holding the former but not the latter leads to a first-order predicate system. Moreover, disregarding both gives a version of classical propositional logic which could have served as a basis for a kind of standard deontic logic. Mally adopts both in his system and this leads him to further confusions.

8 Correct will as conceptual object

Judgments and volitions both refer to the states of affairs but they do so in a different way, says Mally in the Introduction of his book, and he proposes his Deontik as a theory of correct volition [16, p. 233–234] as distinct from correct judgment which is studied in non-modal logic.¹⁰ Mally believes that human volitions are also conceptual objects and they stem out of definite state of affairs, for what is being wished in them is nothing but some other states of affairs which can be true (*Tatsache*) or not true (*Untatsache*) [16, p. 279]. These conceptual objects serve as the content of intentionally directed acts, for intentional acts are never deprived of

¹⁰‘Even though Mally regarded many of his theorems as surprising, he thought that he had discovered an interesting concept of ‘correct willing’ (*richtiges Wollen*) or ‘willing in accordance with the facts’ which should not be confused with the notions of obligation and willing used in ordinary discourse. Mally’s ‘exact system of pure ethics’ was mainly concerned with this concept, but we will not describe this system because it belongs to the field of ethics rather than deontic logic.’[12]

their content. Because of the fact that there is always a conceptual object that is determined by some properties, human beings' volitions may be rationally vague and inconsistent in logical sense but this does not exclude a logical possibility for them to contingently realize [16, p. 278].¹¹

Contrary to not true states of affairs their true counterparts are capable of having their factual instantiations and this is so due to the fact that these conceptual objects are always complete and consistent. *'Inasmuch logic does pursue inconsistent propositions neither, so does not the Deontik in what concerns inconsistent and untrue obligations'* [16, p. 248]. Only the volitions that are complete and consistent may realize as true states of affairs. *'Consistency is the key property of correct thought (richtigen Denken) and right will'* [16, p. 244]. This is the reason why Mally holds the view that any correct volition should include all its implicates. In many places of his book Mally insists that his *Deontik* is a logical theory of correct volitions. This is also plain in his Axiom III and Theorems (6), (7), (9). Inferential totality of correct volition is echoed in Mally's idea of human responsibility [16, p. 273. Cf. note 4 above].

There are two other notable features of Mally's conception of willing: that it is agential, but impersonal, and that it is conditional, but in a very special way. Let us consider these properties in turn.

Mally proposes symbolism !A as 'A ought to be the case' (*A soll sein*) or as 'let A be the case' (*es sei A*) in the sense that A is a state of affairs which is being wished by someone [16, p. 241]. Many Mally's critics point to the fact that traditional deontic O-symbol — be it taken as a connective, or as a sentential operator — is seldom read in this way [12; 10, p. 5–6]. Mally's !A is agential, but impersonal and is goal oriented, but not action-dependent. Therefore, it is small wonder that deontic O-symbol is seldom read in the way Mally introduces his !A, for the two are originally meant to symbolize different entities.

¹¹'The improper will is an obvious demonstrative experience, for the improper ought that wants to be an equivalent to the true state of affairs seems itself to be so only indirectly, namely through the reasoning which points to something together with what out of which true state of affairs follow'.

Mally’s !A explicitly points to an obligatory state of affairs and seems to reject being interpreted as an obligatory action. On the other hand, Mally uses his !A to express someone’s volition which because of being desired becomes someone’s ought rather than obligation. Mally’s philosophical insights into the nature of volition (*Wollen*) show that it is because of the fact that a volition is always human volition it may become human ought in the sense that it performs as a goal for human conduct at issue [16, p. 303–306]. It is in this particular agential sense that Mally’s willing (*Wollen*) is transformed by an agent into a kind of its personal ought (*Sollen*) when choosing its particular strategy. Therefore, Mally’s !A is much closer to the concept of agential choice and to an indeterministic interpretation of agential strategic goal of the kind suggested in *stit*-theories [11], or to what is understood by *tactics* in the deontic logic of A.S. Esenin-Volpin [1], then to deterministic obligations of the sort pursued the framework of the SDL and its developments. In fact, it may be shown that *stit*-reconstruction of Mally’s *Deontik* is also possible with the help of some minor renovations to his system. This is why interpreting Mally’s !A as standard O-obligation would hardly be the best choice.

From what has been said above concerning his concept of willing it is clear now that only correct volition may turn into agential ought. Def. f and Axiom III suggest that what is taken to be a formal condition for the volition is also should be regarded as a part of the intensional content of the volition at issue. In other words, logical antecedent of the desired state of affairs expressing the (pre)condition of the volition is also part of this volition. On the other hand, Theorem 5 says that correct volition is implied by any state of affairs whatsoever [16, p. 261]. Consequently, due to the ideas that correct volition is implied by any state of affairs and that it should include all the consequences of the desired state of affairs, the concept of correct volition results in unconditional and impersonal volition notwithstanding its start as conditional and human depending. In the beginning Mally uses distinct symbolisms to express ought and obligation: oughts as they are introduced by Mally in the first three postulates are different from obligations given in the Axioms V and IV.

In doing so Mally again starts with proposing important distinctions, namely, between agential strategic ought and conditional obligation, but because of his idea of correct volition which should not only imply all its consequences but its antecedents as well, he finally drops the distinction just introduced and arrives at an ill-formed mixture of the two. This confusion results in a problematic outcome that in his philosophical explanations Mally's volition (*Wollen*) is gradually transformed into ought (*Sollen*) [16, p. 276 and ff],¹² what apparently does conform with what he says when introducing his !A [16, p. 241]¹³ in agential indeterministic perspective. But after that, when the idea that agential indeterministic ought is said to include all its consequents, but to follow to the state of affairs which has the predominant chances to happen,¹⁴ things *de facto* go wrong and agential ought is turned into a sort of unconditional obligation [16, p. 299–301, axiom IV].¹⁵ Thus, at this point the distinction is corrupted. Mally is aware of these transformations and he notoriously purports to explain them by pointing to his idea that in order to be capable of being realized the volition should be complete and consistent, but this consideration does not help much here.

Having introduced his illuminative and fertile of further developments concept of agential volition !A, Mally could have subsequently developed a kind of indeterministic logic of norms, had he

¹²In terms of the will, it lies in the very sense of the volition, that to say that the desired state of affairs ought to be is to say that there ought to be any state of affairs in absence of which that which is desired may not happen'.

¹³This ought, precisely the ought of the definite state of affairs, corresponds to the will as to a counterpart conceptual object: it describes the object, namely the state of affairs, to which the will is directed'.

¹⁴This is how the judgment and the subsequent decision come to be correct: they are materially correct, if they both keep to the true state of affairs; they are formally correct, if they have been taken in the sense of the predominant possibility, therefore, have themselves proved to happen' [16, p. 300].

¹⁵The requirement of formal correctness, enjoining what is of man as a volitional essence requires and may be reasonably required: to satisfy the requirements of substantive correctness to the best of knowledge. The requirements of formally correct will specify an ideal: to fulfill the aim, which cannot be required as necessary proper, it is necessary to keep to these requirements rigorously and unconditionally' [16, p. 301].

abandoned the idea that correct volition should imply all the consequents of itself, or keep to what is logically necessary, but he did not. On the basis of the same concept he also could have developed a kind of (non-agential) deterministic deontic logic, had he dropped the idea that correct volition should include all its antecedents, or stem out of the definite state of affairs, but he did not, too. Instead he preserved both and once again arrived at a collapsing confusion of ought and obligation in the deontic part of his *Deontik*. This is particularly the reason for his ‘strange’ Theorem 22 which yields yet more strange consequences.

9 Unconditional obligation

Apart from volitions Mally introduces another kind of obligation, unconditional obligation U (*das unbedingt Geforderte, das Sollens-gemaesse*) which is seen as distinct from !A because of the fact that the latter is agential and conditional. Unconditional constant U and its negation \neg seem to be very close to Kangerian Q-constant which is meant to express a normative code. The difference between Kangerian Q and Mally’s U lies in the idea that Mally takes his deontic constant to refer to the obligatory states of affairs whereas Kangerian Q depict an actual normative code.

It is tempting to call the negation of U, \neg , unconditionally forbidden (*das unbedingt Verbotene*). In some places of his book Mally occasionally does so [16, p. 296–297], but as a whole the notions of forbidden and permitted are not to be found in his book. The reason for this according to Mally lies in two important facts concerning the issue. The first is that unconditionally obligatory is a conceptual object and as such is necessarily applied to a state of affairs. The second is that unconditional obligation is agent-free, or agent-independent. The concepts of permission and prohibition seem not to belong to the domain of the *Deontik* which is seen as logic of correct willing. In this system, prohibition (*verkert-U, Sollenswidrige*) is just the counterpart of unconditionally obligatory and is not an object [16, p. 250].

When introducing his deontic constant U Mally speaks of a kind of positive obligation and its negation and he takes the former to be consistent and actual unconditionally obligatory state of affairs,

though, perhaps, in his view of conceptual objects to say that a state of affairs is consistent and actual would be redundant. Unconditionally obligatory never implies what is incompatible to it, or its negation. Consequently, the negation of U , or \neg , is principally unobtainable as a state of affairs because of its inconsistency. This leads us to the conclusion that it is not quite correct to take Mally's deontic constant \square as unconditionally forbidden of the same sort as unconditionally obligatory.

Agent-dependency is the background of the distinction between Mally's ought and (unconditional) obligation. He draws a borderline between obligation which he regards as definitive and independent of personal representations (*objective Bestimmtheit*) in the sense of (2) and ought which is an agential goal and thus may be vague and even inconsistent (*subjective Unbestimmtheit*) [16, p. 280–281] in the sense of (3)–(4). Axiom IV says that social agents in outlining the trends of their behavior take into account that there exist some (legal or moral) norms. This is not to say that these obligations exist independently of agents, but just that they are not agential ones.

In his purports to introduce a kind of deontologically understood obligation, Mally apparently falls into the trap which he has prepared for himself when diligently avoiding any semantic considerations and carelessly following his object theory. In the deontic part of his system (Axiom IV) Mally would like to propose an objectively interpreted obligation and for this reason he speaks of $!U$ — 'unconditional demand as a principle of actuality of obligation (*Grundsatz der Tatsaechlichkeit des Sollens*)' $\exists U !U$ [16, p. 249] — not only as of existing independently of social agents, but just of the one that exist.

And the trap shuts. Indeed, his idea of true states of affairs as logically consistent conceptual objects taken together with the corrupted formal distinction between the conceptual objects which are capable of having factual instantiations and those that are not (see section 7 and note 9 above) results in that formally there is

simply no room for any other kinds of conceptual objects to be taken as existing in the non-modal part of his *Deontik*.¹⁶

Neither there is any in the deontic part of his system. Agential ought, when taken altogether with all its consequents in the deterministic way (see section 8 above), clearly overlaps with unconditional obligation. This is the philosophical background for Mally’s ‘most surprising consequences’ (34)–(35), which follow out of his Theorem 22 [16, p. 269].

10 Conclusion

In his *Deontik* Mally has made a number of powerful distinctions significant in what regards logic of norms. These are the distinctions between

- a) Actual, or material, and intensional, or formal states of affairs;
- b) Material and formal implications as holding in the case of two mentioned in a);
- c) Agential ought and obligation.

All the distinctions are grounded in his object theory and have proved to be crucial to the development of the logic of norms after Mally. In 1926, the ideas of (a) and (b) were already known in the logical community [6], but he is apparently a pioneer of the idea of (c)-distinction which has started to be developed in the logical systems of norms in the last decades of the XXth century. Unfortunately, in his formalisms he got all the three distinctions confused and this led to the system’s collapse. However, in the paper, more evidence is suggested to support the thesis that *Mally’s pioneering effort deserves rehabilitation rather than contempt* [12].

¹⁶This is particularly why Lokhorst sees Mally’s Axiom IV as redundant [12]. However, his suggestion to replace it with !U will turn Mally’s unconditional obligation into unconditional agential ought.

References

- [1] ESENIN-VOLPIN, A. S., On modal theory, in Daniel A.Y. (ed.), *Philosophy. Logic. Poetry. Human Rights Activity. Selected Papers*, Moscow, Russian Humanities University Press, 1999, pp. 165–177 (in Russian).
- [2] WRIGHT, G. H. von., Norms, truth and logic, *Logical and philosophical investigations*, Moscow, 1986, pp. 290–411 (in Russian).
- [3] WRIGHT, G. H. von., On logic of norms and actions, *Logical and philosophical investigations*, Moscow, 1986, pp. 245–289 (in Russian).
- [4] LISANYUK E. N., Deontic Logic, in I. Mikirtoumov, A. Miguonov, B. Fedorov (eds.), *Logic*, Moscow, Prospect Publ., 2010, pp. 377–424 (in Russian).
- [5] LISANYUK, E. N., The Development of norms' representations in deontic logic, *Vestnik of Novosibirsk University, Series Philosophy*, 8(1):147–152, 2010 (in Russian).
- [6] LISANYUK, E. N., The subject of logic and logical conception of object, *Vestnik SPBGU series 6*, issue 1, pp. 108–112, 2012 (in Russian).
- [7] AQUIST, L., Deontic Logic, *Handbook of Philosophical Logic* 8:159–276, 2002.
- [8] CHELLAS, B., Time and modality in the logic of agency, *Studia Logica* 51:485–517, 1992.
- [9] BELNAP, N. and M. PERLOFF, Seeing to it that: a canonical form for agentives, *Theoria* 54:175–199, 1988.
- [10] FOLLESDAL D. and R. HILPINEN, Deontic Logic: An Introduction, in Hilpinen R. (ed.), *Deontic Logic: Introductory and Systematic Readings*, Reidel, 1971, pp. 1–35.
- [11] HORTY, J., *Agency and Deontic Logic*, Oxford UP, 2001. 200 p.
- [12] LOKHORST, G. J., *Mally's Deontic Logic*, Stanford Encyclopedia of Philosophy. <http://plato.stanford.edu/entries/mally-deontic/>
- [13] LOKHORST, Gert-Jan C., Ernst Mally's *Deontik* (1926), *Notre Dame Journal of Formal Logic* 40(2):273–282, 1999.
- [14] LOKHORST, Gert-Jan C., and Lou GOBLE, Mally's deontic logic, *Grazer philosophische Studien* 67:37–57, 2004.
- [15] LOKHORST, Gert-Jan C., Andersonian deontic logic, propositional quantification, and Mally, *Notre Dame Journal of Formal Logic* 47:385–395, 2006.
- [16] MALLY, E., *Grundgesetze des Sollens: Elemente der Logik des Willens*, Graz: Leuschner und Lubensky, Universitats-Buchhandlung, 1926. Reprinted in Karl Wolf and Paul Weingartner (eds.), *Ernst Mally*,

Logische Schriften: Großes Logikfragment, Grundgesetze des Sollens, Dordrecht: D. Reidel, 1971. P. 227–324.

- [17] PRIOR, A., *Past, Present, and Future*, Oxford University Press, 1967.
- [18] THOMASON, R., Deontic logic and the role of freedom in moral deliberation, in Risto Hilpinen (ed.), *New Studies in Deontic Logic*, D. Reidel Publishing Company, 1981, pp. 177–186.
- [19] WEINBERGER, O., Ernst Mallys Deontik: Ein kritischer Rückblick und ein konstruktiver Ausblick nach einem dreiviertel Jahrhundert, in Thomas Binder, Reinhard Fabian, Ulf Hofer and Jutta Valent (eds.), *Bausteine zu einer Geschichte der Philosophie an der Universität Graz*, Amsterdam/Atlanta: Rodopi, 2001. P. 289–303.
- [20] WOLENSKI, J., Remarks on Mally’s Deontik, in A. Hieke (ed.), *Ernst Mally: Versuch einer Neubewertung (ProPhil-Projekte zur Philosophie, Volume 2)*, Sankt Augustin: Academia Verlag, 1998. P. 73–80.
- [21] ZALTA, E. N., *The Theory of Abstract Objects*. <http://mally.stanford.edu/theory.html>
- [22] ZECHA, G. and A. HIEKE, *Ernst Mally*, Stanford Encyclopedia of Philosophy. <http://plato.stanford.edu/entries/ernst-mally/>