

PRINCIPLES OF ETHICS
IN ILLOCUTIONARY LOGIC

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PRINCIPLES OF ETHICS IN ILLOCUTIONARY LOGIC¹⁾

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Ethics deals with *norms* and *values* and especially with what is *good* and *bad* (G. E. Moore 1903). Many kinds of illocutionary acts such as evaluations, pledges, directives, recommendations, prohibitions, authorizations and permissions are capital in ethics. Thanks to illocutionary logic (J. R. Searle & D. Vanderveken 1985, D. Vanderveken 1990-91, 2004) one can now interpret all kinds of sentences that are used in ethics including imperative, performative, exclamatory and ought sentences and analyze the felicity conditions of capital ethical illocutions. One can also formalize valid practical and theoretical inferences made in the conduct of ethical discourses. From an illocutionary point of view, any evaluation according to which it is good (or bad) to do an action commits the speaker to giving the directive “Do (or do not do) that action!” Illocutionary logic can explain the logical structure and dynamics of ethical discourses like justifications, exhortations and confessions that have a conversational goal. As I have pointed out in 2001, interlocutors must obey constitutive rules in order to conduct such discourses which

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1) I have presented the content of this paper at the *1st World Congress on Logic and Religion* at the Federal University of Paraíba at João Pessoa in April 2015 and at the *Meeting of the International Institute of Philosophy* on *Value, Values and Meaning – La valeur, les valeurs, le sens* at Maltepe University in Istanbul in September 2016.

are illocutions of higher level. My main purpose here will be to use the resources of illocutionary logic in order to analyze capital illocutions of ethics and give a better account of moral obligation, permission and prohibition than that of the traditional deontic logic of G. H. von Wright (1951, 1968). This paper is part of a chapter on *Principia Ethica* of my forthcoming book *Speech Acts in Dialogue* where I enrich and revise deontic logic within illocutionary logic in order to state all kinds of logically valid laws of ethics and eliminate well known deontic paradoxes.

1. Issues and theoretical objectives

According to speech act theory, the primary *units of meaning and communication* in a context of utterance are not isolated true or false propositions but rather speech acts of the type called by J. L. Austin (1962) *illocutionary acts* which have *felicity* rather than *truth conditions*. Until now speech act theory has mainly studied *first level illocutionary acts* that individual speakers attempt to perform by using sentences at single moments of utterance. Most basic first level illocutionary acts are *elementary illocutionary acts* of the form $F(P)$ like assertions, promises, directives, gifts and thanks. As Gotlob Frege (1918-23) pointed out, they have a *force F* and a *propositional content P*. Requests, recommendations, commands, interdictions, promises, pledges, submissions, vows, decisions and pardons are capital elementary illocutions of ethics and religion. By nature all kinds of illocutions are *intrinsically intentional actions* that agents perform voluntarily by making a mental and most often a verbal *attempt*. Their main felicity conditions are their *success and their satisfaction conditions*. In order to be *happy* speakers who attempt to perform an illocution should *succeed* and perform a *non defective* illocution which should moreover be or turn to be *satisfied* in the world. In order to *succeed*, speakers must correctly express attempted public illocutionary acts by

using appropriate words and speak in an adequate context. A baptism is not successful when the priest uses the wrong proper name or christens the wrong baby. A successful illocution is non defective when the speaker is sincere and only makes true presuppositions. Speakers generally *relate* propositional contents of elementary illocutions to the world with the aim of establishing a *correspondence* between words and things from a certain direction of fit. This is why most illocutions have conditions of satisfaction. The notion of *satisfaction* is a generalization of that of truth needed to cover all forces. An *assertion* is *satisfied* when it is *true* ; a *promise* when it is *kept* ; a *command* when it is *obeyed* and a *blessing* when it *places the hearer in a state of God's grace*.

As Searle and I (1985) pointed out, the principal component of each force is its *primary illocutionary point* that determines the *direction of fit* of illocutions with that force. The *direction of fit* of illocutions determines from which direction the correspondence must be achieved between words and things. The *five illocutionary points* are: the *assertive*, the *commissive*, the *directive*, the *declaratory* and the *expressive points*. They correspond to the four possible directions of fit that exist between words and things in language use. *Illocutionary acts with the assertive point* (e.g. assertions, acknowledgements, testimonies, predictions and blames) *have the words-to-things direction of fit*. Their point is *to represent how things are in the world*. In the case of assertive utterances, the used words must correspond to the objects of reference as they stand or will stand in the world. Thus, assertive illocutions are *satisfied* when their propositional content represents a fact which exists or will exist in general independently in the world of the utterance. *Illocutionary acts with the commissive or directive point have the things-to-words direction of fit*. The *point of commissive illocutions* like pledges, promises, threats, vows and renunciations *is to commit the speaker to a course of action*, while the *point of directive illocutions* like requests, solicitations, prayers, commands and

recommendations *is to make an attempt to get the hearer to carry out an action*. In the case of such illocutions, the objects of reference in the world have to be changed by one protagonist of the utterance in order to correspond to the words used. The responsibility for changing the world lies with the speaker in the case of commissives and with the hearer in the case of directives. Thus commissive and directive illocutions are *satisfied* when their speaker or hearer transforms the world in order to fit their propositional content.

Illocutions with the declaratory illocutionary point (e. g. decisions, gifts, pardons, condemnations and blessings) *have the double direction of fit*. Their point is to get the world to match the propositional content by saying that the propositional content matches the world. In successful declarations, objects of reference are changed by the speaker at the moment of utterance in order to correspond to used words in the very utterance of these words. As Austin said, in making successful performative utterances, agents *do things with words*. Every successful declaration is satisfied because the speaker performs at the moment of utterance the represented action by way of representing himself as performing then that very action. Successful declarations are assertions that always make their propositional content true by virtue of the utterance. They have both the *things-to-words and the words-to-things direction of fit*. For some elementary illocutions, there is no question of success or failure of fit. *Illocutions with the expressive point* like thanks, apologies, complaints, congratulations and boasts *have the empty direction of fit*. Their point is just *to express propositional attitudes of the speaker about the fact* represented by the propositional content. *Propositional attitudes* are individual attitudes of the form $M(P)$ like beliefs, previsions, convictions, desires, wishes and intentions which have a *psychological mode M* and a *propositional content P*. In purely expressive utterances, speakers do not attempt to establish a correspondence between words and things. They just want to manifest verbally

their propositional attitudes about the ways in which objects are in the world. They presuppose then the existence of the fact that inspires their attitude. So purely expressive illocutions do not have proper conditions of satisfaction. Expressive illocutionary acts are just *appropriate* or *inappropriate*. An expressive illocution is *appropriate* when the speaker expresses an attitude whose mode is right for the represented fact and when the fact that inspires that attitude is really existent. Thus it is inappropriate to thank someone for an action that was very bad or that he or she did not carry out.

Some complex first level illocutionary acts are not reducible to elementary illocutions. So are *acts of illocutionary denegation* such as refusals and disapprovals which are of the form $\neg F(P)$ whose aim is to make explicit the non-performance by the speaker of an illocution $F(P)$; *conditional illocutionary acts* such as offers which are of the form $(P \Rightarrow F(Q))$ whose aim is to perform an illocutionary act $F(Q)$, not categorically, but on the condition that a proposition P is true; and *conjunctions of illocutionary acts* such as warnings of the form $(F_1(P_1) \& F_2(P_2))$ whose aim is to perform simultaneously two illocutionary acts $F_1(P_1)$ and $F_2(P_2)$. A *refusal* is the illocutionary denegation of an acceptance, an *offer* is a promise that is conditional on the hearer's acceptance, and a *warning* is the conjunction of an assertion that something is the case and of a suggestion to the hearer to do something about it. Complex first level illocutions that are capital in ethics are conditional directives, acts of granting permission, authorizations, offers and warnings.

Assertions can be false, promises violated and commands disobeyed. However one needs a unified theory of *success, satisfaction and truth* in illocutionary logic. Whoever attempts to perform an illocution knows under which conditions that illocution is satisfied. Moreover, the satisfaction of elementary illocutions requires the *truth* of their propositional content. Whoever follows a recommendation

does the recommended action. Some illocutions have stronger felicity conditions than others. Certain illocutions *strongly commit the speaker to* other illocutions : One cannot perform these illocutions without *eo ipso* performing the others. Thus recommendations contain advice. Second certain illocutions have stronger satisfaction conditions than others. When a speaker keeps his promise the assertion that he does the promised action turns to be true. Third certain illocutions cannot be performed unless others are satisfied. Whoever gives his pardon to someone makes the true assertion that that person is forgiven. Conversely certain illocutions cannot be satisfied unless others are or were performed. One can only obey a command which has been given. According to Searle and I (1985), literal *performative utterances* are declarations according to which the speaker performs the illocution named by their main performative verb. In understanding felicity conditions, interlocutors make practical and theoretical valid inferences. They understand that certain illocutions cannot be felicitous unless others are. So any competent speaker infers from a premise of the form “Any man is rational and Socrates is a man” the conclusion “Socrates is rational” (theoretical inference). Similarly, he or she infers from a premise of the form “You should help others” the conclusion “Help others !” From a logical point of view, conclusions of theoretical inferences have the words-to-things direction of fit, while conclusions of practical inferences have the things-to-words direction of fit. We need a *recursive unified theory of felicity* in order to account for all this.

2. Progress and methodology

Until now speech act theory has mainly tended to study first level illocutions. Searle and I (1985) have stated the principles of a theory of felicity for first level illocutions. The notion of *force* is not a primitive notion of illocutionary logic.

We have decomposed each force into six components, namely: its primary *illocutionary point*, its *mode of achievement of that point*, its *propositional content conditions*, its *preparatory* and *sincerity conditions*, and its *degree of strength*. We also recursively defined the set of all possible illocutionary forces and success conditions of elementary illocutions. The five *primitive forces* are the simplest forces with an illocutionary point. These are: the force of *assertion* expressed by the declarative sentential type; the primitive force of a *commitment to an action* named by the performative verb “commit”; the primitive force of a *linguistic attempt to get the hearer to act* expressed by the imperative sentential type; the force of *declaration* expressed in performative utterances, and the primitive force of *expression* of a speaker’s attitude expressed by the exclamatory sentential type. All primitive forces are universal.

All other more complex forces are obtained by adding to primitive forces new linguistically significant modes of achievement of illocutionary point, new propositional content conditions, new preparatory or new sincerity conditions, or by increasing or decreasing the degree of strength. Thus a *request* is a directive with a special courteous mode of achievement of the directive point: the speaker then gives option of refusal to the hearer. A *question* is a request that the hearer gives an *answer* to that question (special propositional content condition). An act of *praying* is a strong request with a humble and earnest mode of achievement and the special sincerity condition that the speaker expresses respect to the hearer. A directive *suggestion* is a weak attempt to get the hearer to act (weak degree of strength). A *recommendation* is a directive suggestion with the special preparatory condition that the recommended action is both good for the hearer and good in general. When added components are transcendent, complex forces are universal. The force of recommendation is universal for one can express that actions are good in general and good for someone in all human languages. When added components

are immanent to peculiar languages, obtained complex forces are not universal. The declaratory force of *excommunication* is specific to linguistic communities which can refer to the sacrament of communion. For to excommunicate is to exclude by declaration a person from the community of Christians by excluding him or her from communion. All capital elementary illocutions of ethics have a complex force with special components.

As Searle and I pointed out, the felicity conditions of elementary illocutions are entirely determined by the components of their force and their propositional content. Agents obey *constitutive rules* determined by force components in their attempted performance of elementary illocutions. Thus whoever *attempts to perform* an elementary illocution of the form $F(P)$ in a context of utterance must first of all *attempt to achieve the illocutionary point of the force F on the proposition P* with the required *mode of achievement* of that force. In order to achieve a force F on a proposition P the agent has of course *to express that force and that proposition* in the context of utterance. So the agent must attempt then *to express a proposition P* that satisfies the *propositional content conditions* of the force F in the context. Thirdly he or she must also *presuppose all propositions determined by the preparatory conditions* of force F for the propositional content P and finally he or she must *attempt to express with the degree of strength of F all attitudes* of the form $M(P)$ whose *psychological mode M is determined by the sincerity conditions* of force F . For example, whoever attempts to make a *promise* must address an utterance to a hearer with the intention of committing himself or herself to carrying out an action (commissive illocutionary point and propositional content condition of a promise) while putting himself or herself under the obligation to carry out that action (special mode of realization of the commissive point peculiar to promise) and presuppose moreover that the promised action is then good for that hearer (special preparatory condition of promise).

By definition, an attempted illocution of the form $F(P)$ is *successfully performed* in a context of utterance when the speaker succeeds in achieving the illocutionary point of the force F on the content P with the required mode of achievement and the proposition P satisfies the propositional content conditions of force F in the context, when he or she presupposes well all propositions determined by preparatory conditions of illocution $F(P)$ and when he or she succeeds in expressing with the required degree of strength all propositional attitudes $M(P)$ determined by the sincerity conditions of force F . Whoever makes a successful promise expresses a strong intention to act. When the speaker uses wrong words and fails to express the force or the propositional content of an attempted illocution, he or she fails to communicate to hearers his or her intention to perform that illocution. It happens that speakers presuppose false propositions or express attitudes that they do not have. A successful illocution is *defective* when one proposition that enters into its preparatory conditions is false or when the speaker lies and does not possess an attitude that enters into its sincerity conditions. An attempted first level illocution is *non-defective* in a context when it is successful and all its preparatory and sincerity conditions are then fulfilled. Austin with his notion of *felicity-condition* did not distinguish clearly between successful utterances that are defective and utterances that are not even successful. On one hand there are limits to success. No one can successfully advise a hearer to have done something. For one can only achieve the directive point on propositions that represent a present or future action of the hearer. Any attempt to give a directive with a past propositional content would be a failure. This is why we never try to give such directives. Such limits to success show themselves in language. There are no well-formed imperative sentences whose main verb names a past action of the hearer. One can succeed in giving advice which is bad for the hearer (failure of a preparatory condition) or that one does not wish to be followed (failure of sincerity

conditions). In illocutionary logic, *felicity conditions* of illocutionary acts are the sum of their success, preparatory, sincerity and satisfaction conditions.

By virtue of its logical form each attempted illocutionary act commits the speaker to many other acts. An illocution *strongly commits the speaker to* another when he or she could not then perform that illocution without performing the other. All predictions contain an assertion but not conversely. Assertions about the past are not predictions. Whoever means to perform an illocution *eo ipso* attempts to perform others with less success-conditions. But agents are also committed to performing stronger illocutions. Whoever replies to an assertion by saying the contrary does more than assert the negation of its propositional content. He then *contradicts* the previous speaker. As Searle and I pointed out, speakers are also *weakly committed* to illocutions that they do not overtly perform. Whoever agrees to help everybody is committed to agreeing to help you even if he did not make any reference to you. Literal utterances like “I agree to help everybody and I refuse to help you” are paradoxical. Attempts can fail. But whoever attempts to perform an illocution is weakly committed to that illocution. Could we explicate to which illocutions a speaker is weakly committed? There is a Brouwerian reflexive and symmetrical relation of *agentive compatibility* in the logic of action of illocutionary logic. Two moments are *compatible as regards an agent* when that agent could simultaneously perform all actions that he or she performs at these two moments. By definition a speaker is *weakly committed* to a first level illocution at a moment of utterance when he or she could perform that illocution at any moment that is compatible with that moment as regards that agent. All the laws governing weak illocutionary commitment follow from this definition.

A speaker *succeeds in performing a conjunction* of two illocutions of the form $(F_1(P_1) \ \& \ F_2(P_2))$ in a context if and only he or she succeeds in performing the two illocutions $F_1(P_1)$ and $F_2(P_2)$. Unlike illocutionary conjunction,

illocutionary negation and illocutionary conditional are not success functional operations on illocutions. The performance of the illocutionary denegation of an illocution $\neg F(P)$ requires more than the non-performance of that illocution $F(P)$. From the fact that one did not accept an offer it does not follow that one refused it. Similarly the performance of the conditional illocutionary act $(P \Rightarrow F(Q))$ requires more than the falsehood of the antecedent proposition P or the performance of the illocution $F(Q)$. Any successful performance of an illocution in a context requires an attempt which somehow restricts the set of possible contexts of utterance which are illocutionarily compatible with that context. Two contexts with the same speaker are *illocutionarily compatible* when all illocutions that he or she performs in one could be performed in the other that is to say when their moments of utterance are compatible as regards that speaker. In my approach, a speaker *succeeds in performing an illocutionary denegation* of the form $\neg F(P)$ in a context when that speaker attempts to perform that act of denegation and he or she does not perform the denegated illocution $F(P)$ *in any context which is illocutionarily compatible with that context*. Similarly, a speaker *succeeds in performing a conditional illocutionary act* of the form $(P \Rightarrow F(Q))$ in a context when he or she attempts to perform that conditional illocutionary act and he or she is committed to performing categorically the illocutionary act $F(Q)$ in all illocutionarily compatible contexts when the antecedent proposition P is or turns to true. Whoever performs a conditional illocutionary act $(P \Rightarrow F(Q))$ is committed to performing categorically the illocution $F(Q)$ when the antecedent proposition P is then true. Often the agent of a conditional illocution $(P \Rightarrow F(Q))$ does not know at the moment of utterance whether the antecedent proposition P is or will turn to be true especially when the proposition is future. In that case that agent does not know whether he is then committed to the categorical illocution $F(Q)$.

Complex illocutions also have satisfaction, preparatory and sincerity conditions.

A conjunction of two illocutions is satisfied (and non defective) if and only if these two illocutions are satisfied (and non defective). A warning that the road is slippery is satisfied when the speaker makes a true assertion and the hearer follows his advice. An act of illocutionary denegation $\neg F(P)$ is *satisfied* when the agent does not perform the denegated illocution $F(P)$. So any successful illocutionary denegation is satisfied. A conditional illocution ($P \Rightarrow F(Q)$) is satisfied if and only if the categorical illocution $F(Q)$ is satisfied when the antecedent proposition P is or turns to be true. The satisfaction of an accepted offer of help requires that the speaker keeps his promise of help. In performing complex illocutions speakers express *complex attitudes* like sums and denegations of attitudes and conditional attitudes, which are not reducible to propositional attitudes. In performing a conjunction of two illocutions in a context presupposes *all propositions* and expresses *all attitudes* that are respectively determined by the preparatory and the sincerity conditions of these illocutions in that context. One possesses the *conjunction (or the sum) of two attitudes* at a moment when one possesses these two attitudes. Whoever makes a warning expresses a belief in the truth of the propositional content and a desire that the hearer reacts in following one's advice. In performing acts of illocutionary denegations $\neg F(P)$ speakers presuppose they could then perform denegated illocutions and they express *psychological denegations of attitudes* of denegated illocutions. One possesses the *denegation of an attitude* of the form $\neg M(P)$ like a disbelief when one feels that one does not possess the denegated attitude e. g. the belief. Whoever refuses a gift expresses discord and presupposes that he or she could have accepted. A discord is the psychological denegation of the state of agreement, just as a refusal is the illocutionary denegation of an acceptance. In performing conditional illocutions of the form ($P \Rightarrow F(Q)$) speakers presuppose conditional propositions of the form ($P \Rightarrow R$) where R is a proposition determined by the preparatory condition of illocution A in the context.

They also express *conditional attitudes* of the form $(P \Rightarrow M(Q))$ where $M(Q)$ is an attitude that is a sincerity condition of illocution A . One possesses a *conditional attitude* of the form $(P \Rightarrow M(Q))$ when one feels that one would possess the attitude $M(Q)$ if the antecedent proposition were or turned to be true. Whoever promises help to a person if something bad happens presupposes that he or she can help and that it would be good for that person in that case. He or she also expresses the conditional belief that he or she can help and the conditional intention to help the person if the bad event occurs.

John Searle and I (1985) analyzed the meaning of English force-markers and performative verbs. We pointed out that most force markers contain modifiers of sentential type expressing particular force components. So sentences with the same syntactic type can express illocutions with different forces. Imperative sentences like “Do it please!”, “Do it whether you like it or not!” and “Do it, it is good for you!” respectively express a *request*, a *peremptory directive* and an *advice*. Unfortunately Searle and I (1985) did not analyze in detail the nature of propositional contents of illocutions and their satisfaction-conditions. Speech act theory requires a *finer criterion of propositional identity* than logical equivalence. For many propositions with the same truth conditions are not the senses of synonymous clauses. Moreover most logically equivalent propositions are not the contents of successful illocutions with the same forces and of possessed propositional attitudes with the same modes. We can assert and believe that Istanbul is a city without asserting and believing that it is a city and not a sphere. The sentences “Istanbul is a city” and “Istanbul is a city and not a sphere” do not express the same proposition. However they express two logically equivalent propositions true in exactly the same possible circumstances.

In order to explicate this, I have formulated in the past decades a non-classical *natural predicative logic of propositions* that takes into account the acts of

predication that we make in expressing and understanding propositions. My predicative approach respects the double nature of propositions which are both *senses of sentences* and *contents of elementary illocutions* and *propositional attitudes*. It describes their structure of constituents and explicates how we understand their truth conditions. I have first formulated in *Meaning and Speech Acts* (1990-91) a simple *predicative propositional logic* that analyses propositions representing atomic facts and their truth functions. However speakers are also oriented towards past, present and future facts, they distinguish between actual and possible facts and make generalisations. They moreover intend and attempt to perform their successful illocutions and express then all kinds of attitudes. We need to represent modal, general, past, present and future facts as well as first level actions and attitudes of agents in the ideography of illocutionary logic in order to formulate the theory of felicity of illocutions. Over the past decade I have added to predicative propositional logic logical and historic *modalities* and ramified *time* in 2005a and 2008, *generalization* in 2013a and 2015, first level *actions* in 2005b and 2014 and *attitudes* in 2008 and 2009.

By definition the *satisfaction* of elementary illocutions requires the *truth* of their propositional content. In order that an elementary illocutionary act $F(P)$ be satisfied in a context, its propositional content P must be true in the circumstance of utterance. In philosophical logic, expressed propositions are true or false in so-called *possible circumstances* that contain a moment of time. Certain possible circumstances are *actual*. They belong to the actual course of action of our real world. Others belong to possible courses of action of our world where there exist more or less individual objects or where objects of the real world have other properties. Now we, human agents, live in an *indeterminist* world where the future is open. According to *indeterminism*, the ways in which things are at a moment are not entirely determined by the ways in which they were before. In particular

our actions and attitudes are not determined. Whenever we do or think something, we could have done or thought something else, or nothing at all.

We need a *ramified conception of time* in order to account for indeterminism and freedom. In branching time each *moment* represents a *complete possible state of the actual world at a given instant*. Paradigmatic moments of time are *moments of utterance* during which we can use a sentence. Whoever says “now” refers to the very moment of his utterance. Every discourse is conducted during a discontinuous sequence of successive moments of utterance. There is a single causal route to the past but multiple future routes. For several incompatible moments of time might directly follow a moment of utterance in the future of the world. When a speaker makes an offer to a hearer in a dialogue, that hearer can reply in several ways : he or she can accept, refuse or make a counteroffer. The hearer can also ignore that offer. The moment of utterance of the offer belongs then to several histories with the same past and present but different historic continuations.

Consequently, the set of moments of time is a *tree-like frame* of the following form :

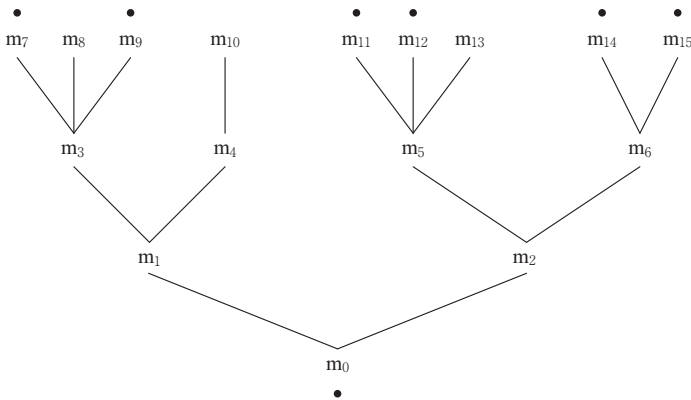


Figure 1

A maximal chain h of moments of time is called a *history*. It represents a *possible course of history of our world*. Like Nuel Belnap (1992, 2001), I think that *possible circumstances*, where propositions are true or false, are pairs of a moment of time and of a history to which that moment belongs. Thanks to histories temporal logic can analyze modal notions like *settled truth* and the different kinds of *causal*, *historic* and *universal necessity* and *possibility*. Certain propositions are true at a moment according to all histories. Their truth is then *settled at that moment* no matter how the world continues. So are past propositions and propositions according to which agents perform elementary illocutions and possess propositional attitudes. Whoever attempts to perform an elementary illocution either succeeds or fails to perform that illocution at the moment of utterance. He or she *succeeds* when all success conditions are fulfilled at that moment and he or she *fails* otherwise. Unlike the success and the failure, the *satisfaction* or the *insatisfaction* of attempted elementary illocutions oriented towards the future and of conditional illocutions whose antecedent proposition is future is *not settled* at each moment of utterance. Contrary to the past, the future is open. The world can continue in various ways after most moments of utterance. Thus the truth or the falsehood of future propositional contents of elementary illocutions is not at all settled at these moments. It depends on what will be their actual historical continuation. When there are different possible historic continuations of a moment, its actual future continuation is not then determined. It can be true at that moment according to one possible historic continuation of that moment and false at that moment according to another historic continuation.

As W. of Ockham (1321-23) pointed out, if the world continues after a moment, it will continue in a unique way. Like Ockham and contrary to Belnap, I believe that each non-final moment will have a unique real historic continuation even if that continuation is still undetermined at that very moment. Indeterminism

cannot prevent that uniqueness. According to standard philosophy of mind human agents, who are directed by virtue of their intentionality towards things and facts of the world, are intrinsically oriented at each moment of their life towards the *real continuation* of the world. We all ignore now how the world will continue but we are intrinsically oriented at each moment of utterance towards the real continuation of that moment and we always distinguish conceptually that real from other possible continuations whenever our actions or thoughts are directed towards the future. Whoever requests, wishes or offers future help requests, wishes or offers help in the real future. So in my approach our illocutions and attitudes at each moment have or will have a certain satisfaction value even if that satisfaction value is still undetermined when they are oriented towards the future. In order to keep a present promise and execute a present intention to help someone later, the speaker must help that person in the real continuation of the world. Other possible historic continuations do not matter. All possible circumstances whether actual or not have a proper *world of utterance* whose course of history contains the real historic continuation of their moment of utterance.

In order for an elementary illocution to be *satisfied*, it is not enough that its propositional content is or turns to be true and corresponds to an existing fact in the real historic continuation of the moment of utterance. The correspondence between words and things must be established from the proper *direction of fit* of its force. When an illocution has the things-to-words direction of fit, it is or it will be satisfied if and only if its propositional content is or turns to be true because of its performance. Whoever follows a recommendation must do what is recommended *because of* that recommendation. There is often an over determination of reasons. An agent can do a recommended action for several reasons. But one of his reasons is that he or she intends then to follow that recommendation. Whoever has forgotten a previous recommendation cannot follow it.

In ramified temporal logic, two *moments of time* are *coinstantaneous* when they belong to the same instant. Coinstantaneous moments are on the same horizontal line in each tree-like frame. Each moment of time is of course coinstantaneous with itself. So in the last figure m_3 , m_4 , m_5 and m_6 are four coinstantaneous moments. Two *possible circumstances* are *coinstantaneous* when their moments are coinstantaneous. One analyzes *historic necessity* by quantifying over coinstantaneous moments. The proposition that *P is then necessary* (in symbols $\Box P$) is true at a circumstance when the truth of *P* is settled at all coinstantaneous circumstances. The notion of historic necessity is stronger than that of settled truth. The historically necessary fact is not only established but inevitable. According to traditional philosophy there are no inevitable actions and intentions. So when an agent carries out an action at a moment he or she could then not have carried it out. The notions of *logical* or *universal necessity* are stronger than historic necessity. The proposition that *P is universally necessary* (in symbols: $\blacksquare P$) is true in a circumstance when *P* is true in all possible circumstances. In that case the represented fact is objectively necessary and always inevitable. The inexistence of that fact is then *objectively impossible*.

As Belnap pointed out, the possible causes and effects so to speak of actions of any agent at a moment are limited to those which are possible outcomes of the way the world has been up to that moment. In order to explicate *historical relevance* we must then consider coinstantaneous moments having the same past. Such moments are called *alternative moments* in my logic. Thus m_7 , m_8 and m_9 are alternative moments in figure 1. A proposition is *causally necessary* in a circumstance when that proposition is true in all possible circumstances which are compatible with the laws of nature that prevail in the world of that circumstance. So when a circumstance is causally compatible with another circumstance all the facts that exist in the world of that circumstance respect the laws of nature prevailing

in the other circumstance.²⁾

Until now speech-act theorists have mainly tended to study first level illocutions. Searle and I (1985) have only analysed the felicity conditions of such illocutions. However, we most often use language in order to conduct dialogues with interlocutors. Natural languages are by nature *public* languages. Above all, the use of language is a *social form of linguistic behaviour*. Can we extend speech act theory to deal with discourse and formulate a logic of conversation? Both L. Wittgenstein (1958) in his *Philosophical Investigations* and Searle (1992) have expressed skepticism. However as I pointed out in 2001, protagonists always perform in any discourse *master illocutionary acts* with the intention of achieving together *proper linguistic goals* that are *conversational goals* corresponding to a possible direction of fit between words and things. Interlocutors in conversation sooner or later share the collective intention to *describe the world* (descriptive conversational goal), to *deliberate on what to do* (deliberative goal), to *change things by way of declarations* (declaratory conversational goal); they moreover always intend to *express collective attitudes* (expressive conversational goal) on facts of the world that they presuppose to be existent. As one would expect, discourses with the *word-to-world direction of fit* (like presentations, theoretical debates, reports, and interrogations) have a *descriptive goal*: they serve to describe how things are in the world. Discourses with the *world-to-word direction of fit* (like negotiations, practical debates, exhortations, attempts to come to an agreement and sermons) have a *deliberative goal*: they serve to deliberate on what to do in the world. Discourses with the *double direction of fit* (like appointments, moral codes, inaugurations, and absolutions of sins at the end

2) The relation of compatibility between possible circumstances corresponding to causal necessity is reflexive and transitive but not symmetric. For new laws of nature might prevail in the world of a possible circumstance causally compatible with another which would prevent facts existing in that other circumstance.

of confessions at church) have a *declaratory goal*: they serve to do things in the world by declarations. Discourses with *no direction of fit* (like exchange of greetings, expressions of respect and submission, eulogies) have an *expressive goal* : they serve to express publicly attitudes of protagonists.

Dialogues which have a proper conversational goal are *joint illocutions of higher-level* irreducible to sequences of individual instantaneous illocutions. Several agents perform them in turn and they last over an interval of time. They have a conversational *type and theme* and their conduct requires cooperation. The *logic of discourse*, as I conceive it, aims to study not all possible language-games but only those with a proper linguistic goal. As Searle (2001) now admits, one can formulate a logic of such discourses because their protagonists obey ***constitutive rules*** in conducting them. Most discourses of ethics and religion have a conversational goal. Justifications and prophesies are descriptive, exhortations and sermons deliberative, moral codes and condemnations declaratory and public manifestations of respect and submission to God expressive. I will only analyze here first level capital illocutions of ethics. I will analyze the structure and dynamism of religious discourses at the next meeting of the international Institute of Philosophy at Dubrovnik.

3. The need to integrate illocutionary logic in a logic of attitudes and actions

Like R. Montague (1974), I believe that pragmatics should use the resources of formalisms and philosophical and mathematical logic in order to establish a rigorous *theory of meaning and use*. Natural languages can be learned by human agents whose cognitive abilities are both creative and limited. Formalisms enable us to construct better models of linguistic competence and understanding. However

as I explained in 2013b, one must revise basic hypotheses of standard philosophical logics of *propositions*, *attitudes* and *actions* in order to analyze adequately felicity-conditions of illocutions. Speech act theory not only requires a much finer *criterion of propositional identity* than logical equivalence. But it also requires explicating the *intentionality* and *imperfect but minimal rationality* of interlocutors and the *generation of their speech acts* in the logic of action.

Standard logics of attitudes based on J. Hintikka's (1962, 1971) approach and the standard logic of action of N. Belnap & M. Perloff (1992, 2001) are defective. In Hintikka's epistemic logic, human agents are *logically omniscient*. They know and believe all logically necessary propositions. For in Hintikka's approach, *possible circumstances are compatible with the truth of agents' beliefs* and the *realization of their desires* at each moment of time. An agent *believes* a proposition *P* at a moment *m* according to Hintikka when that proposition *P* is true in every circumstance where all beliefs of that agent at that moment are true. On this account, we, human agents, know all logically necessary propositions and our beliefs are closed under logical implication. Whoever believes a proposition *P* also believes all propositions that *P* logically implies. However we ignore many essential properties of objects which persist in the world. In my terminology *essential properties* are properties that objects really have in all possible circumstances. For example, each human agent has the essential property of having certain parents and a genetic code. We learn *a posteriori* empiric essential properties and we ignore some of them. Abandoned children can ignore the identity of their parents. Certain adopted children are wrong about their identity. Moreover according to the standard approach agents are either perfectly rational or they are totally irrational. But as the Greek philosophers pointed out, when we are inconsistent we do not *eo ipso* believe everything. It is paradoxical to believe every proposition (this is the so-called paradox of sophism).

As Nuel Belnap pointed out, we need a *ramified* conception of time and modalities in order to account for physical indeterminism and the apparent freedom of agents. However Belnap's indeterminist logic of action ignore the very intentionality of agents and it also does not analyse adequately their agentive commitments. I have explained the principles of my logic of first level attitudes and actions at recent Meetings of the International Institute of Philosophy at Zadar, Moscow, Bucharest and Athens³⁾. My formal logic of attitudes and actions is compatible with standard philosophy of mind and of action. On one hand, my logic of attitudes deals with all cognitive and volitive propositional attitudes and with complex first level conditional attitudes and psychological denegations and conjunctions of simpler attitudes. My logic also explicates formally why we are neither logically omniscient nor perfectly rational. It explains why human agents *a priori* know certain logically necessary truths and why they always remain *minimally rational* (C. Cherniak 1986) and make certain logical practical and theoretical inferences.

My logic of first level actions revises and enriches Belnap's standard logic of action in order to take into account the *intentionality and minimal rationality of human agents*. It is more general ; it deals with all kinds of first level actions, no matter whether they are oriented towards the present or the future. Every intentional action contains a present intention in action, few execute a prior intention. In my approach, *intentional actions are primary* as in contemporary philosophy. Unintentional actions are *generated* by intentional actions that agents *attempt* to perform, and they could always in principle have been attempted. Unlike intentions which are attitudes that we have, *attempts* are actions of a special

3) I have read my paper «Beliefs, Desires and Minimal Rationality» of 2008 at the Zadar Meeting and the paper "Intentionality and Minimal Rationality in the Logic of Action" of 2014 at the Athens Meeting.

kind that we make. They are *personal, intentional, conscious, free* and *successful*. Every agent can only make his or her individual attempts. When two agents succeed in doing the same action (the same elementary illocution), they do it thanks to different personal attempts (in that case different utterances). There are no involuntary attempts. Each attempt is free. Whoever attempts to make an attempt makes it. It is enough to try to make an attempt in order to make it. Direct attempts by an agent to move parts of one's body are real *basic actions* in the sense of A. Goldman (1970). When an agent *forms* the present intention to make a direct movement, an attempt is caused by the very formation of that intention. Attempts are *means* to achieve *ends*. Whoever makes an attempt makes that attempt in order to achieve an objective. The agent can succeed or fail to reach his or her objective. When the agent succeeds, his or her attempt is then *satisfied*. Otherwise it is *unsatisfied*. In order to make a *satisfied* attempt, one must make a good attempt in a right circumstance.

My logic of action formulates laws governing attempts. It explicates the nature of our *intentional* and *basic* actions and it classifies the different *kinds of action generation* in order to state adequate logical laws of *agentive commitment*. Thanks to that logic of action illocutionary logic can now formulate a better theory of felicity conditions. Any illocution is indeed an intrinsically intentional action. Moreover commissive, directive and declaratory illocutions have propositional contents that represent present or future actions of their speaker or hearer. Illocutionary logic can moreover explicate by *simple generation* illocutionary commitments to stronger illocutions. In contexts where certain propositional, preparatory or sincerity conditions are fulfilled the successful performance of the literal illocution simply generates illocutions with a stronger force.

4. How to revise deontic logic within illocutionary logic

I agree with von Wright that deontic logic is primarily concerned with moral norms like *moral obligation*, *moral permission* and *moral prohibition*. Unfortunately G. H. von Wright does not explicate well such moral norms because he does not take any account of capital illocutions of ethics underlying these norms. First of all moral obligation is the only primitive deontic notion of von Wright's *standard propositional deontic logic* SDL of 1951 which contains the single logical constant of moral *obligation* O in addition to the truth connectives of *negation* \sim and *material implication* \rightarrow of elementary propositional logic. Formulas of the form Op of SDL with a propositional formula p mean that it is *morally obligatory* that p . According to von Wright one can derive the notions of moral permission, moral prohibition and moral option from the primitive notion of moral obligation and truth functions by the following abbreviations: *Permitted* $p =_{\text{def}} \sim Op$; *Forbidden* $p =_{\text{def}} O\sim p$; and *Optional* $p =_{\text{def}} (\sim Op \ \& \ \sim O\sim p)$, just like possibility, impossibility and contingency are derived from necessity in modal logic.

On my view von Wright is wrong on that matter. For unlike obligations that agents have, prohibitions, interdictions and permissions are before all *illocutionary acts* that speakers perform in making utterances addressed to hearers. One needs the conceptual apparatus of illocutionary logic in order to analyze their felicity conditions. To *forbid* someone to do something is to *order* him or her *not to do* it. So *forbid* $p =_{\text{def}} \text{order}\sim p$. An *act of forbidding* is an order with a negative propositional content which has the special mode of achievement of the directive point that the speaker invokes a position of force or authority over the hearer. *Prohibitions* are acts of forbidding an action not only at the moment of utterance but over a long period of time (special propositional content condition). To *interdict* an action is to *declare that it is prohibited*. A *permission* is the

illocutionary denegation of an act of forbidding. To *permit* someone to do something is just to make clear that one does not forbid him or her to do it. Thus *permit* $p =_{\text{def}} \neg \text{forbid} p$. Psychological and illocutionary denegations are very different from propositional negation. $\neg F(P) \neq F(\neg P)$ and $\neg M(P) \neq M(\neg P)$. Whoever refuses a gift does not accept not to receive it. These denegations moreover do not obey the law of double negation nor the law of excluded middle. $\neg \neg F(P) \neq F(P)$ and $\neg \neg M(P) \neq M(P)$. The denegation of a permission to do something is not an order not do it. One can be discontent at being discontent with a failure without being content with that failure. It is false that every speaker either forbids or permits any action.

Incidentally given its wrong definitions of illocutions deontic logic proves a lot of false theorems about capital illocutions of ethics and moral obligations. On one hand, acts of forbidding, prohibition, interdiction and permission are illocutions which cannot be defined in terms of agents' obligations. On the other hand, as speech act theory pointed out, obligations are imposed on agents by the very performance of many illocutions. Thus any *evaluation* according to which it is good (or bad) to carry out an action is a statement or a declaration that commits the speaker to giving to hearers the directive *Carry out* (or *Refrain from carrying out*) that action! No matter whether it is assertive or declaratory, any *evaluation* according to which an action is good (or bad) contains a *recommendation* to the hearer to do (or to refrain from doing) that action. Moreover *certain commissive illocutions* like promises and vows *impose obligations on speakers*, just as *directive illocutions* like commands and prohibitions and *declaratory illocutions* like interdictions can *impose obligations on hearers*. In addition to moral obligations, there are also religious and juridical obligations. God's Ten Commandments impose religious obligations on believers, just as promulgations of laws impose legal obligations on citizens of a country. So several illocutions with a

non empty direction of fit impose (sometimes too many) obligations on agents. As E. J. Lemmon (1962) pointed out, the third axiom schema of SDL according to which all formulas of the form $O_p \rightarrow \sim O \sim p$ are axioms states a dubious law which prevents standard deontic logic from representing *moral dilemmas*. Obligations can be in conflict. Agents can be obliged for different reasons to realize incompatible actions or actions with more or less moral value. In such cases one can doubt that every moral obligation is a moral permission. Agents should then not be permitted to perform all obligatory actions but only those which have moral priority. Furthermore we often perform conditionally capital ethical illocutions in order to impose conditional obligations on agents. We make conditional promises, commandments and interdictions. A capital illocution of ethics is the fundamental valid conditional directive : If it is good to do something, do it ! It imposes on interlocutors the conditional obligation to realize an action if it is good. See Vanderveken (2018) for more considerations on all kinds of valid laws that I advocate for deontic logic within illocutionary logic.

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