

## Table of Contents

PREFACE .....	3
CHAPTER I Some Systems of Deontic Logic .....	11
1. Distinction between three groups of concepts: deontological or normative notions, axiological or value notions, and praxeological notions. Axiology and Deontology as branches of Praxeology or a General Theory of Action.	
2. Deontic logic originated from the observation of an analogy between quantifiers, modalities, and normative notions.	
3. The formal language of deontic calculi. The reading of deontic formulae. The propositional nature of the variables. The phrases "it is permitted (obligatory) that" and "one is permitted (obligated) to see to it that".	
4. An axiom system of deontic logic. The question of interdefinability of the deontic operators " <i>P</i> " (for permission) and " <i>O</i> " (for obligation).	
5. Observations on the meta-theory of the axiomatic system. The notion of a deontic constituent of a formula and of a deontic tautology. Decision procedures. Completeness of the system.	
6. Some counter-intuitive features of the system. Ross's Paradox. The notion of a free choice permission.	
7. Monadic and dyadic deontic logics. Definition of six concepts of conditional permission. Conditional permission as a relation of alternativeness between possible worlds.	
8. Definition of corresponding obligation concepts. The notion of a free choice restrictor.	
9. The notion of logical truth in dyadic deontic logic. Observations on the principle " $P(t/t)$ ". Is it a synthetic proposition, a meta-norm, or a conceptual (logical) truth? Observations on the principle " $O(p/q) \rightarrow P(p/q)$ ".	
10. The monadic systems of deontic logic as "limiting cases" of the dyadic systems. The two main types of monadic systems. The conception of the monadic formulae as "imperatives".	
11. The paradoxes revisited. The paradoxes are due to a confusion, on the intuitive level, between different <i>P</i> - and <i>O</i> -concepts.	
12. Relations of logical strength between the various <i>P</i> -concepts and the various <i>O</i> -concepts. "Combined" systems of deontic logic. Sketch of a system which seems to hold a privileged	

position from the point of view of our intuitive understanding of the concepts of permission and obligation.

CHAPTER II Elements of a Logic of Action .....	37
1. States of affairs and actions as the contents of norms. Distinction between ideal rules (norms) and rules of action; <i>Seinsollen</i> and <i>Tunsollen</i> . The need of a deontic logic of actions.	
2. Definition of action as the bringing about and preventing of changes in the world (nature). Acts and activities. Behaviour. Action and omission.	
3. A Logic of Action presupposes a Logic of Change. The notion of a state of affairs. Generic and individual states.	
4. The assumption of logical atomism. Its heuristic usefulness. The assumption of discreteness of time. The notion of a history. The <i>T</i> -calculus.	
5. The nature of an action is determined by the result of the action in the setting of the acting-situation, or opportunity, for this action.	
6. The counterfactual element involved in action. Action and intentionality. The <i>I</i> -calculus, a formal counterpart to the <i>T</i> -calculus. The <i>TI</i> -calculus.	
7. The elementary modes of action and omission. The notion of a total action. A succession of total actions constitutes a life. Biographies. The notion of a life-situation.	
8. Interaction of agents. Our treatment confined to the case of one agent "alone with nature". But what happens in nature may be the result of other agents operating in it.	
9. Introduction of a modal operator " <i>M</i> ". The <i>TIM</i> -calculus. Distinction between <i>logical</i> and <i>natural</i> possibility. Our notion of natural possibility an "amalgamation" of <i>human</i> and <i>physical</i> possibility. What a man <i>can do</i> in a given acting-situation depends partly upon his <i>ability</i> and partly upon <i>causation</i> (determinism) in nature.	
10. The life-tree in a deterministic universe. The extreme cases of omnipotence and impotence. The notion of degree of freedom.	
11. Distinction between states of affairs which are, and such which are not, within the control of the agent. Redefinition of the notion of a total action. A man can <i>leave</i> unchanged only that which he also could have changed, and <i>let</i> happen only that which he also could have prevented.	
12. Distinction between ontic and epistemic determinism. The life-tree in a universe of varying degrees of determinism (indeterminism).	
CHAPTER III The Deontic Logic of Action .....	58
1. Permission as deontic possibility. Our notion of deontic possibility an "amalgamation" of the notion of what a man may	

- (can legitimately) *do* and the notion of what opportunities of action there may (can legitimately) *be*.
2. Relation between the deontic and the logical modalities. Criticism of the view that only logically contingent things can be the contents of norms.
  3. Relation between the deontic and the natural modalities. Considerations on seven cases of overlaps and non-overlaps of branches of a deontic and a naturalistic life-tree. The idea that "ought" entails "can". The arguments for accepting it are of an axiological order.
  4. The derivation of a deontic life-tree through a process of "pruning" or "trimming" another life-tree. The two extreme cases of norms which are derivable from superior principles and norms which are purely conventional. Technical norms and rules of a game as examples. The relation of norms to truth.
  5. Since action is relative to an opportunity, norms of action must be expressed in a dyadic deontic calculus. Sketch of a combined calculus of monadic and dyadic deontic operators.
  6. The notion of a "fall". After a "fall" a man may become subject to a new normative order. Contrary-to-Duty Imperatives. A dyadic deontic calculus needed for the purpose of connecting a "post-lapsarian" normative order with the "pre-lapsarian" order.
  7. The notion of commitment. The Paradoxes of Derived Obligation. Their avoidance in a dyadic calculus.
  8. The notion of predicament or internal conflict of obligation. The story of Jephthah in the Book of Judges. The theorem " $O(\sim t/p) \rightarrow O\sim p$ ". Genuine predicament is logically possible only through a "fall". The resolution of predicaments.

#### CHAPTER IV Deontic Logic and some Meta-Juristic Queries . . . . 82

1. The problems of the interrelatedness of the deontic operators and of their interdefinability. Redefinition of the notion of a well-formed formula.
2. Normative systems. The notion of deontic determinacy. Open and closed systems of norms.
3. Distinction between deontic determinacy with regard to actions and with regard to states of affairs. Is every system of norms trivially closed?
4. Defense of the interdefinability of the deontic operators. The apparent failure of the inference from " $\sim P\sim p$ " to "*Op*" due to a confusion between different permission-, and corresponding obligation-, concepts. The non-trivial closing of a normative system through a meta-norm.
5. The principles "Everything which is not prohibited is permitted" and "Everything which is not permitted is prohibited". Their apparent asymmetry due to a confusion of the

ontic question of the existence of norms and the epistemic question of establishing this existence. The principle *nullum crimen sine lege*.

6. Norms of higher order. Normative action, *i.e.* the norm-giving acts of a norm-authority, may itself be subject to norm.
7. Are there logical laws relating norms of different order? The failure of the principle *ab esse ad posse valet consequentia* in deontic logic. A suggested weakened form of the principle for deontic logic.
8. The notions of competence and validity. The Principle of Validity. Its use as a criterion of the unity of a normative system.

BIBLIOGRAPHY .....	97
INDEX .....	108