



Understanding the formal structure of legal reasoning –its use and limits –A perspective in Indian Jurisprudence

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Abstract

Deduction is a particularly fruitful model for judicial reasoning because it offers a rich and already well-developed theory of argument. But when we attempt to reduce a judicial opinion to an argument of deductive logic, the aspects of legal reasoning that are not deductive is exposed. This paper is an effort to study this complex relationship and thus begins with the examination of role of deductive reasoning in law - the basics of the deductive syllogisms and then turns to the limitations that it has in legal domain with special reference to Indian judicial system.

Key words:

Complex relationship, judicial system, syllogism, Civil law, criminal law

1. Introduction

'Law is reasoning' is something that has never inspires much of a debate. Logic has been central to legal education and thinking for many years. The application of reasoning in legal context can be summarized in this manner – "First the decision maker through a species of inductive logic identifies the legal issues presented by the facts of cases. Issues selection then yield to rule

selection. Rule selection results from the analogical process. Further rule selection may flow from legal principles, which in turn often invite dicta - legal outcomes. Legal outcomes or holdings obtain from the application of rules to the facts of the case, a process involving deductive logic. These outcomes can be justified variously by the legal syllogism, by precedent and by policy. Policy finally is shaped by rhetorical arguments either of the quotidian or the philosophical note".

¹ The relationship between the reasoning logical and legal can be classified in the following way:

- Codified Statues, written Constitution and customary practices dealt with by the process of deductive justification.
- Case based reasoning that fall under the ambit of process of

analogy defined by inductive reasoning.

In this paper the prime focus is on the first aspect of legal reasoning i.e. deductive reasoning-- its need, use and limits in legal process.

2. For this purpose the objectives are:



- Determining the correct rule of law- need of deductive reasoning.
- To gain a clearer understanding of precisely how this process of deductive reasoning actually works within the context of a legal argument.
- Understanding the use of syllogistic reasoning in logical argumentation.
- Limits of deductive reasoning- Challenges to major and minor premise of legal syllogisms.

3. Deduction defined

This is one of the two main types of arguments traditionally distinguished, the other one being induction. A deductive argument is one in which conclusions are drawn by applying the general rule to the appropriate particular set of facts to draw an inference about the set of facts in question. In a deductive argument, the conclusion remains within the ambit of the premises; thus if one is sure of the truth of the premises, the truth of the conclusion naturally follows. A deductive argument can in this manner be said to provide conclusive ground for its conclusions. The following sections of the article discuss role of deductive argument in the legal context.

4. Role of deductive reasoning in legal argumentation

The overall structure of legal argument is deductive in nature—consisting of a rule together with the facts of the case as premises, and the judgment of the court as conclusion. And

it is here – in deciding on the rule of law that should be applied to a given set of facts—that deductive reasoning has a central role in legal argumentation.² The appeal to higher court is normally based on the claim that some rule has been applied improperly, or that the wrong rule has been applied. The rule in dispute may concern the procedures at the trial and the admission of evidence, or they may concern the substance of the matter. In the criminal law, where the substantive rules are generally quite well settled, it is most likely to be procedural and evidentiary rules – pertaining to self-incrimination, admission of evidence, support of counsel and so on – that are at issue on appeal. But in the civil law it is most often the substance of the rule applied rather than procedure that is the issue before the court. In reaching decisions court heavenly depend on the deductive argument. The way in which deductive justifications are used in legal process is explained in the following paragraph.

Deductive reasoning is based on two types of systems. One is the judge made law wherein the judge of a lower court is bound by the rulings of the higher courts. This is known as the doctrine of precedent or *stare decisis*. This is prevalent in Common law countries but not in Civil law countries. Another situation in which the judges apply the law to the given fact situation and thereby move from cause to the effect in a direct and descending nature. This system is followed in all nations. Although judge made law provides the



scope for deductive reasoning, it is not limited to that respect alone. When a case with a unique fact situation comes, then the courts may apply deductive reasoning by directly examining the law related to the subject and thereby move from the idea (given by law) to the facts (of the case). This becomes essential for areas, which are new. For example, in the area of Intellectual Property Rights (IPR) which deals with copyrights, patents and trademarks, the courts usually do not get guidelines from judge made law on account of the unique nature of the subject. The court therefore applies the law laid down by the legislature in the Copyrights Act, Patents Act and the Trademarks Act. Even in the area of Cyber laws, the court has to rely on the Information Technology Act. Even in cases dealing with the traditional laws, the courts often apply deductive reasoning not only for judge made laws but also for laws laid down by the parliament³.

5. Syllogistic⁴ nature of legal reasoning: The understanding of law in the context of logic is central to the understanding of the various process of deductive reasoning.

The analytical skill for the legal professional is to learn the briefing of cases -a case brief reduces a judicial decision to an argument of deductive logic stated in categorical form -a syllogism. The classic example of syllogism is:

Question- Is Ram mortal?

Minor premise- Ram is a man.

Major premise -All men are mortal.

Conclusion- Ram is Mortal.

This relationship is explicit in the form of Syllogism.⁵Early in this century, John Dewey extravagantly claimed that among all forms of logic, deductive or syllogistic logic exercises the greatest influence on legal decision-making. The legal rule carefully formulated is one premise of deductive argument. The statement of facts exhibiting their relation to the rule is the second premise. The outcome of applying the rule to the facts will leads to judgment. This is applicable in both civil and criminal law. If the defendant in the civil suit is held liable, an appropriate remedy for plaintiff must then be awarded. If they accused is found to be guilty in criminal trial an appropriate punishment must be imposed. But the overall scheme in either case is deductive in nature, which consists of a legal rule together with the facts of cases as premises, and the judgment of the case is the conclusion based on the above premises.

Deductive syllogisms are immensely useful in law; every argument can be reduced to the form of a syllogism⁶, and a large fraction of these syllogisms are deductive in nature. In such arguments, the truth of the conclusion being absolutely guaranteed, they have immense force of persuasion, in a courtroom for example.

Deductive syllogisms comprise a Major premise, which is the general rule, the Minor premise, which is the relevant fact, and the conclusion, which offers a



new insight related to the fact, which is known to be true based on the premises. In the legal context, especially in the context of criminal law, the structure of the deductive syllogism would be roughly as follows:

Major premise: [Doing something] [violates the law]

Minor Premise: [The defendant] [did something]

Conclusion: [The defendant] [violated the law]⁷

Thus deductive syllogisms are invaluable in their ability to bring clarity and focus to an argument by stripping it to its essentials. Every argument can be simplified to a syllogism; this is indicated by the following legal examples.

Consider the case of P Rathinam v. Union of India⁸ ;

Major premise: The right to life under article 21 of the Indian constitution includes the right not to live a forced life.

Minor Premise: Section 309 of the Indian Penal Code, 1860, imposes a penalty on attempts to commit suicide (held to be an act of ending a forced life).

Conclusion: The penalty under Section 309 is a violation of Article 21 of the Indian Constitution.

Consider the case of State of Andhra Pradesh v. K Srinivasulu Reddy and Anr⁹.

Major premise: When a criminal act is done by several persons in furtherance of the common

intention of all, each of such persons is liable for that act in the same manner as if it were done by him alone under Section 34 of the Indian Penal Code, 1860.

Minor Premise: Accused A1 and A2 committed criminal act not in furtherance of the common intention of all

Conclusion: Accused A1 and A2 will not be guilty under Section 34 of the Indian Penal Code, 1860.

The following are the various other types of syllogistic argument that utilized in legal reasoning.

6. Hypothetical Categorical Syllogism-

To affirm the antecedent is to affirm the consequent in the conclusion

$$\begin{aligned} &.P \rightarrow Q \\ &P \\ &\therefore Q \\ &-P \\ &\therefore -Q \end{aligned}$$

This proposition is mostly used in determining the punishments or compensations in case of particular acts.

Any body who act negligently (P) is liable to make good the damage caused due to his negligent act (Q)

7. Disjunctive Categorical Syllogism

A possibility of choice to select one of the available under a given set of facts and related principles.



$P \vee Q$

$\neg P$

$\therefore Q$

Or $P/\neg Q$ Or $Q/\neg P$

Any body who commits murder is punishable with imprisonment for life (P) or death (Q)

This proposition is mostly used in determining the appropriate choices of remedies or punishments.

8. Polysyllogism

As noted at the beginning of this paper, a case brief is in the form of a syllogism, an argument of deductive logic. But to characterize a brief as a single argument of deductive logic, a single syllogism, is misleading. On closer inspection it becomes apparent that the reasoning of the court in any particular case is not a single argument of logic, as the form of a brief would suggest, but many arguments or syllogisms. A case brief is in fact a chain of logical arguments, proceeding from the root premises of the court to its final decision. As Judge Aldisert observed, "often a series of syllogisms are linked with conclusions of previous ones forming the premises of those which follow." By using a "polysyllogistic" approach, one may trace the court's reasoning from its underlying assumptions about the law to its ruling in the case before it.

9. Limitations of Deductive Reasoning in Legal Domain

In spite of the heavy use and dependence of **law** upon deductive reasoning, and the various forms of *antecedent-consequent*

relations, there are certain limitations that are encountered when *deductive reasoning* is associated with *legal reasoning*. When we attempt to reduce a judicial opinion to an argument of deductive logic, the aspects of legal reasoning that are not deductive is exposed.

In a typical legal argument the major premise states a general proposition of law, and the minor premise then applies that same legal proposition to some particular circumstance unique to the individual case at issue. The complexity at every step explores the unique nature of legal argument as well as the difference that exist between the deductive and legal argument in general.

- **Major and minor Premise:** In the case of *deductive justification* there is a specific major premise laid down for every individual minor premise and therefore, no interpretation or manipulation is required; on the other hand in the case *legal reasoning* there is only one general principle of law laid down by a codified statute or precedent case and the fact situations differ on a wide range of possibilities. In deductive reasoning, especially *deductive syllogism* the focus of argument lies on the major premise i.e. the *Principle (or Law)*, as that determines the character of the conclusion or the final verdict; whereas in the case of *legal reasoning* the focus revolves around the minor premise i.e. the *Facts*. This requires certain modifications to be made in



the *principle of law* and also in the *facts* in order to establish similarity and distinction between any precedents. This again takes us in the field of analogy that falls outside the scope of deduction in general, and brings in the application of *induction*.

- **Conclusion:** In the case of a valid deduction there is only one definite conclusion that is achieved through a stepwise process whereas in matters related to legal reasoning there may be various and varied conclusions that might appear to be contradictory and yet correct.¹⁰
- **Application of major to Minor:** In the case of deductive reasoning as distinguished from legal reasoning, it is only the major and minor premise that play a role in reaching up to a conclusion whereas in legal reasoning there are many more concepts other than the law and the facts that are of relevance in reaching up to the verdict by the courts.¹¹
- **Challenge to syllogistic nature of legal reasoning. - Problems of Ambiguity and Problems of Validity in easy and Hard Cases:-** The soundness of any syllogism may be challenged by attacking either the minor premise or the major premise. An attack on the minor premise of a legal syllogism tests whether the rule is applicable to the facts, while an attack on the major premise tests its validity. A case brief is not a single syllogism of deductive logic; rather, it consists of strands or chains of

syllogisms—"polysyllogisms." The polysyllogistic approach is a useful means for describing the underlying structure of a judicial opinion. This approach reveals that the base minor premises of legal arguments consist of items of evidence of what the law is, while the base major premises are the categories of legal arguments that may be legitimately made. Furthermore, the syllogistic approach to briefing cases reveals that there are two types of hard cases: cases where a rule of law is ambiguous, and cases where the validity of a rule is in question. Questions of ambiguity arise when the minor premise of a proposition of law is challenged, while questions of validity arise when the major premise of a proposition of law is challenged¹². Hard cases are cases where two or more valid legal arguments lead to contradictory conclusions.¹³ Although legal reasoning may logical in form, in substance it is evaluative.

10. Conclusion

At one time law was considered to be a science legal reasoning was considered to be a species of deductive logic, and judicial opinions were summarized or "briefed" as if they were syllogisms, arguments of deductive logic. Accordingly, although syllogistic reasoning plays a central role in briefing judicial opinions, logic alone cannot describe hard cases. A system of pure logic(deductive) works only in easy cases, i.e. cases where the validity of the rule of



law is unchallenged and the terms of rule are unambiguous.

¹ Samuelson, David, *Introducing Legal Reasoning*, 47 J. Legal Educ. 571 (1997)

² See Ruggero j. Aldisert, *logic for lawyers: A guide to clear legal thinking* 45 (3d ed. 1997) ("deductive reasoning is a mental operation that a student, lawyer or judge must employ every working day."); edgar bodenheimer, et al., *an introduction to the anglo-american legal system* 117 (2d ed. 1988) (including "deductive reasoning" among the "types of legal reasoning"); james a. holland & julian s. webb, *learning legal rules* 219 (2d ed. 1993) ("lawyers use both inductive and deductive reasoning, and legal decision making will often be a reflection of both these modes, used in conjunction with each other to produce a reasoned conclusion."); scott brewer, *introduction, in the philosophy of legal reasoning: logic, probability, and presumptions in legal reasoning* x (scott brewer ed., 1998) ("deduction plays . . . an important role in many (though admittedly not all) analogical arguments").

³ An example is given hereunder to elucidate this position in law. In the case of *Veersa Singh*, a man had attacked another with a dagger and killed the man and the Hon'ble Supreme Court ruled that the accuse was liable for one count of murder. However, in the latter case of *Jayaraj v. State of Tamil Nadu*, wherein the facts were similar, the Supreme Court did not hold the accused liable for murder on the ground that the medical experts had not stated that the stab wound inflicted was *sufficient in the ordinary course of nature to cause death* as laid down in section 302 of the Indian Penal Code. Thus, we see that the accused got away on a technical ground as the law laid down by the

Parliament was strictly applied and the earlier case was not followed as the judges differentiated the facts due to the difference in both cases from medical experts.

⁴ The legal syllogism was recognized by the eighteenth century reformer Cesare Beccaria, who expressly advocated that, in the area of criminal law, judges should follow syllogistic reasoning: "In every criminal case, a judge should come to a perfect syllogism: the major premise should be the general law; the minor premise, the act which does or does not conform to the law; and the conclusion, acquittal or condemnation."

⁵ Let us suppose that a married woman, Radha, has undergone a hysterectomy and is therefore unable to bear a child, but has retained her ovaries and can produce healthy ova. Let us further suppose that she wished to have a child and that her sister Rita is willing to carry the child. An embryo is created in vitro with gametes taken from Radha and her husband and embryo is implanted into Rita's uterus. Rita gives birth to child and gives to Radha and her husband. These facts are the minor premise of a legal syllogism.

The people involved in this case may ask that "Is Radha or Rita the legal mother of the child at the time of birth.

The relevant major premise is the rule of law stating generally the category of persons who are legal mother. If there were a rule of law that ' a women who give birth to the child is legal a mother. We would conclude that Rita is legal mother of the child. This can be summarize in the following manner:

Issue – Who is the legal mother of a child?

Fact- Rita give birth to the child.

Law- the women who give birth to the child are legal mother.

Holding- Rita is the legal mother of the child.



This shows the syllogistic aspect of legal reasoning.

⁶ Ref p2 for utility of syllogisms

⁷ Aldisert, Ruggero J., Clowney, Stephen and Peterson, Jeremy D., *Logic For Law Students*, 2007

⁸ Supra Note 9

⁹ (2003)12 SCC 660

¹⁰ *For example*, the same legal case seems to fall under the ambit of *Negligence*, *Nuisance* as well as *Trespass*, and at the same time the principles of all the three do not seem to be adequate.

¹¹ For example, in matters of vicarious liability not only the law of negligence but also the concept of respondent superior is brought into picture that determines the final decree of the court

¹² To illustrate another type of hard case we return to our earlier example of gestational surrogacy. The relevant rule of law may be stated in hypothetical form as follows: if a woman gives birth to a child, then she is its lawful mother. This rule is not ambiguous in the context of gestational surrogacy; all the words of the fact portion of the rule have but one meaning as applied to this case. But we know intuitively that this is not an easy case, even though the rule of law is unambiguous. The difficulty arises because in this context the rule itself seems to be an incorrect or unfair statement of the law. This type of case is hard because the validity of the rule is in question, even though its meaning is clear. The law is volitional, not phenomenological. The root premises of law are value judgments. Though law is logical and rational in form, in substance it is evaluative, the result of intentional value choices. Samuelson, David, *Introducing Legal Reasoning*, 47 J. Legal Educ. 571 (1997)

¹³ For example, if a person purposefully and without justification or excuse causes the death of another, then the person is guilty of homicide. An intruder who deliberately shoots and kills a sleeping homeowner in the course of a burglary is clearly guilty of murder; this is an easy case. But consider the case of a woman who has suffered years of serious physical abuse at the hands of her husband, a man who has repeatedly threatened her life. Is this woman guilty of homicide if she shoots and kills him as he lies sleeping?⁷ Was her act justified? The law of self-defense generally requires that the defendant reasonably believed that her actions were necessary to defend herself against the aggressor's imminent use of unlawful force. This is a hard case because of the ambiguity inherent in the word "imminent." Some will argue that the defendant is guilty and some will argue that she is not, because the meaning of the word "imminent" in the rule defining self-defense is unclear in the context of a "sleeping husband / battered wife" murder case. This problem of ambiguity creates a hard case because it allows for two different interpretations of the rule.