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Analysis of constitutional reasoning

(Master thesis)

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By this I declare that I wrote this thesis by myself, only with the help of the referenced literature, under the careful supervision of my thesis advisor.

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Abstrakt

Právne usudzovanie je procesom tvorby rozhodnutí, založenom na dostupných faktoch a pravidlách z právneho systému. Ústavnoprávne usudzovanie vytvára priestor na diskusiu o zhode práva so základnou skupinou hodnôt a princípov - ústave. Takéto usudzovanie je založené na špecifických metódach a princípoch. Niektoré sú známe a už popísané, iné sa bežne používajú, či vedome alebo nevedome. Predkladám analýzu týchto metód pozorovaných v empirickom materiáli, textoch súdnych rozhodnutí. Hlavný predmet tejto práce sa dá rozdeliť na 2 časti. V prvom je použitie konceptu meta-argumentácie v aplikácii formálneho frameworku na právne usudzovanie, ako riešiť inkonzistencie v systéme a ako sa dajú vytvárať rozhodnutia v takom procese. Druhá časť je o princípoch a metódach, ktoré sa používajú v útokoch na argumenty. Cieľom je aplikácia formálneho frameworku do takej miery, akú problém ústavnoprávneho usudzovania dovoľuje, identifikácia miest, kde sa takýto prístup dá použiť a môže nám pomôcť lepšie pochopiť tento proces a na druhej strane miesta, kde takýto prístup zlyháva a čo je dôležitejšie, prečo zlyháva.

Kľúčové slová:

právne usudzovanie, logika, meta-argumentácia

Bibliography identification

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Abstract

Legal reasoning is a process of making decisions, based on available facts and rules from the legal system. Constitutional reasoning creates an area for discussion about compliance of law to the basic set of values and principles - constitution. Such reasoning is based on specific methods and principles. Some of them are known and already described, other are consciously or even unconsciously generally used. I am proposing an analysis of these methods observed in empirical material, text of juridical decisions. Main subject of this work can be divided into 2 parts. First one uses concept of meta-argumentation in the application of formal framework to legal reasoning, how inconsistencies in system can be handled and how the decision about case can be made in such process. Second part is about the principles and methods, which are used for attacks on arguments. Legal argumentation uses natural language, which very often leaves open space for various types of attacks on arguments. Goal is an application of formal framework to the extent, which the problem of constitutional reasoning can allow and to identify places, where such approach can be applied and can help us to achieve better understanding of the process, and on the other hand places, where this approach fails and more importantly why it fails.

Key words:

legal reasoning, logic, meta-argumentation

Contents

Chapter 1

Introduction

1.1 Motivation

Legal reasoning is an interesting kind of human reasoning. People engaged in this process have at disposition set of rules for good behavior - legal system. Legal system is a complex description of desirable human behavior. More specific case of legal reasoning, to which I will dedicate this work, is constitutional reasoning. Constitution is a set of basic principles, which human societal group, in this case a state, revere as valuable and its protection is applied into legal system. When a doubt arises about compliance of legal rules to the principles and values honored by constitution, these people have to analyze such law, whether it really fulfills its purpose of protection of these values. Constitutional court analyzes the case and achieves some decision. Analysis of the case is not fully arbitrary, it follows various methods and principles. Some of them are known and described, some are not specifically described, but are generally followed, consciously, or even unconsciously by people involved.

Goal of my work is to analyze empirical texts, search for these methods, de-

scribe them and discuss their importance, reliability and their deficiencies. That could even uncover some errors or unjustness in the empirical material analyzed. Outcome of this analysis should be a step in understanding principles of constitutional reasoning and expansion of the basis for further research in this area. Complete and deep understanding of all the methods and principles used in constitutional reasoning is beyond the scope of this work, however it should be an advance on the road to such state of knowledge of constitutional reasoning. With a background in cognitive science, I can provide a perspective on the problem, little different from these, presented by legal experts.

1.2 Legal system, constitution

Constitution and legal system generally consists of set of different rights and freedoms, which are guaranteed to every citizen. All of them are guaranteed to citizens by default and can be constrained only on behalf of reasonable purpose. Cause of such a restriction is usually a protection of another right or freedom of other people, or even the same person. One of our rights is freedom of movement. Therefore by default, we could go everywhere, where we want. However, we are guaranteed also right to privacy and walking to the house of other person without permission may be considered as the fulfillment of our right of free movement, but in the same time could be also a violation of other person's right to privacy. This is just one simple example, but when we look at the full set of our rights guaranteed to us, we can very quickly see, that we cannot possibly claim any freedom without some restrictions, in absolute manner. Every time we try to apply one of our rights in extreme way, we violate other rights. All of them are in conflict and best solution is trying to find such state of freedoms usage, that all can be fulfilled in a maximal possible way, but in a way, which does not yet cause violation of other rights in greater volume, than it helps to fulfill.

This description is very vague and can be interpreted in many ways. Constitution and legal system as a whole serves the purpose of setting some boundaries for resolving such conflicts in a way acceptable for members of our society, depending on rights valuation. Current state of values is a product of society, which assigns different values to different rights. In legal system these values are not exactly given by number, or by ordering of freedoms and rights. However they are hidden in a set of rules, which form the legal system. They can be then reconstructed and approximated by a process of reasoning, or more precisely constitutional reasoning, if we focus on relations between basic freedoms and rights. I will present overall description of the process we can call constitutional reasoning and then try to focus on some of its important properties and sub-processes, which are vital for its understanding.

Goal of this work as mentioned is to create some description of these principles used in legal reasoning, propound their formalization and question their usage from cognitive perspective, which can give a view on problem from different angle, than usual perspective of experts in law.

1.3 Abstract model of reasoning process

We can use an abstract overall view on problem of trying to find a solution to the balancing of application of different rights in specific case. Imagine an n-dimensional space, where n is a number of rights, which have to be considered in that case. There is one string in a direction of every dimension, all of them starting at the same all zero point of the space.

String can represent a right or freedom in that particular case. Its physical properties have to be valuated for each particular case (space). This is in general one of the hardest problems. Each string, as all common strings on which some forces apply, is

trying to maximize its length against those forces. In our case, length is an application of particular right in that case. Length is affected by more attributes. Firstly, if there is no force going against it, string is in maximal length by default. The same applies for any right. There is no such reasonable explanation, how the restriction of some basic right of citizen can be proficient for the well-being of such citizen, if it is not seconded by protection of other rights. As with physical string, it's length cannot get under some minimal length, without destroying it. The same applies for guaranteed rights. They cannot get under some minimal application, while still being reckoned as considered and applied in such case. So every string length needs to be in interval starting with its minimal length and thus ensuring it's existence as string and ending with it's maximal length, which could string achieve, if no resistance caused by other forces is applied. Optimal solution for every string alone is the right border of this interval and every string as independent object naturally tries to achieve this state. However, system of other string causes forces to compress that string and move it's length more to the left border of interval, which string opposes by its own forces coming from it's own construction and physical properties. With the constant power of outside and inside forces, every string reaches finally a balanced state.

I previously asserted that every string (right) is compressed by the forces coming from other strings (rights). How can we achieve such connections in this proposed model? We can make some simple example in 3-dimensional space. We can use 3 rights - freedom of movement (1), right to health protection (2) and right to privacy (3). All of them are guaranteed to us. However, in many cases, protecting one right can cause violation of other, if we want to claim each of them as absolute. (1) can cause violation of (2), if we decide that we want to be in the same time on the same place as other person, no need to specify more. (2) can cause violation of (1), if ill person is held in quarantine to protect health of others. (1) violates (3), if we decide to be in private space of another person and (3) violates (1), if a person decides to buy land and build

own private house on such a place, the other were accustomed to perceive as public place. Doctor's storing of knowledge about our health status violates our privacy to some degree, but can help to save our life, so (2) can violate (3) and it could be desired state. Even if we know, that some actions endanger health, the right for privacy can be positioned higher than protection of health, so for example banning smoking for a single person in private place for protection of his own health is not practiced and (3) violates (2). We can see, that it isn't hard to find case, when thorough application of every thinkable basic right can cause violation of another.

There are always some conflicts between application of rights. We can imagine that in our model as a wrapper around the strings. This wrapper is not large enough to cover stretched strings, but we can form it and move it to such position, that forces on strings will come to almost balanced state. This is the same case, as the legal system should do to balance application of rights. However, we can use some rubber wrapper, and strings could come to their exact balanced state naturally. The same applies, if we can imagine such wrapper in the n-dimensional space, which I proposed before. [1]

We can assume that the same solution as in this simplified model, exists also for legal problems. I will try to focus on 2 main unknowns, which this model asserts, but in reality are hard problem. First one are the properties of strings. Model expects knowledge of how these strings look, what is their hardness, minimal and maximal length, how much force is needed to change their length. In fact, we do not have these values given. In the terms of legal system, these properties of string consist of two parts. First one, how the specific freedom or right stands in comparison with other rights. It is clear, that right to freedom of movement is not valued higher than right to live, when we put those two to compare without any context. Our values are not the same for everything and even if we do not have a list with our values ordered, we

[1] We didn't account for possible different effects of one string on various other strings and more important properties of real legal system. This is just a significantly simplified model for illustration.

can see projections of these value settings in legal system, constitution and in our own reasoning, when we need to handle situations based on moral dilemma. Second one is an application of these values in particular case. Even if we have some basic ordering of our values we give each right, those are not used fully automatically, but are changed depending on situation, or particular case.

In my opinion, for every constitutional case exists an ideal, naturally balanced solution, which are (or at least should) judges trying to approximate in the highest possible manner. I will present mechanisms for handling the string properties in the meaning of this model, how the rubber wrapper can work, what are the principles and methods, which could help us to create the most accurate approximation of such wrapper.

1.4 Abortion case

For the purpose of finding principles of constitutional reasoning, I used as my main source decision of Constitutional Court of Slovak Republic in the question of constitutional justness of abortion law[VUS 07]. First initiative came from group of parliament members, who share an opinion that current abortion law may not be in concordance with the Constitution of Slovak Republic (I will use just constitution further) and changes in its subject matter should be considered. Current version of abortion law permits abortion procedure on woman's demand until 12 weeks of nasciturus age. Claimants imply, that this state of law does not ensure sufficient protection for fetus, when protection of life is set directly in the constitution.

Few more institutions provided opinions on the case for argumentation. Apart from the group of parliament members, also Supreme Court of the Slovak Republic put forward a notion, that the law may be unconstitutional. This was expressed

also by few members of constitutional court as addendum to the formulation of decision about the case by the jury. The constitutional concordance of the law was supported by the parliament as the whole, Ministry of Health of the Slovak Republic, Prosecutor General of the Republic of Slovakia and eventually the jury decided the case in the favor of it.

Most important reason for picking text of this decision was controversial character of its subject of interest. It brings very different looks on problem from all sides concerned. Such a problem emerges various conflicts in reasoning about them, many principles of constitutional reasoning are exposed. As this work should propose a different view on constitutional reasoning as experts in law could offer, analysis of practical reasoning in real cases is more promising, than just using sources about legal reasoning, compiled by legal experts. Further in this work, I will review principles and methods used in real practice.

Chapter 2

Constitutional reasoning

2.1 Basic principles of constitutional reasoning

2.1.1 Constitutional base and its interpretation

Constitution should give a set of indefeasible arguments, on which argumentation is based. Problem is, that constitution is a set of abstract principles, which need to be interpreted and adjusted to the specific case. All sides can make such interpretations, that even as all come from the same constitutional base and cover the same case, they can oppose each other. Result of argumentation is to choose the best interpretation, if it could be that of one side, or reasonable consensus made from the weighted arguments of all sides.

These differences are based on different valuation of constitutional rights and principles for people with different cultural, political or religious perspectives. Constitution is an integral set of values, revered by society. Outcome is that well-being of all citizens, even minorities should be protected. However, everyone has to experience a

little discomfort, or tension, because of the differences in concerns of various groups. Naturally, each group makes its own shifted interpretation of constitution. Judge's intention is to account for such shifts and find arguments, which are overrated or underrated by group and shift their argumentation towards the more mediate way.

2.1.2 Alexy's classification of interpretations

From Alexy's classification[Hol 08, Ale 95], interpretation consists of linguistic, genetic, systematic and general practical arguments.

Linguistic argument consists of semantic and syntactic approach. This method dissolves legal statements semantically and syntactically and bases output on such analysis. It expects knowledge and usage of accurate meaning of legal terms with precise creation of statements to be successful.

Genetic, or historical argument creates interpretation on historic origins and perspective. Meaning of statement is interpreted in the context of historical context. How to interpret statement is influenced by the analysis of historical background, other statements made by lawgiver, historical conditions taking place prior to that statements and changes after its enactment[Plu 05].

Systematic argument is based on the original purpose of legal system working as a whole together and it's purpose of making homogeneous reflection of definition and protection of societal values. Inner consistency of legal system, contextual argumentation and term-systematic argumentation have the major roles in this approach.

Last perspective is practical argumentation. Action or event can be considered as right or good in itself without referring to any external value or law, or made with just rational justification.

E1: Decision for action X should be made, because action X leads to consequence Y and consequence Y is good for goal Z.

This is called teleological or consequentialist argumentation. It aims to interpret law in such way, that legal rules are for protection of the good and to avert the bad. Interpreter of a rule by using this method should use it to find the rational purpose of the established rule, not stick to it's perhaps misleading formalization.

E2: Decision for action X should be made, because action X is in accordance with norm Y and norm Y is morally good.

Moral, or deontological argumentation proposes an action to be made without being written in law, just to follow moral values of legal community.

Each of these methods have their pros and cons.

Linguistic argument should be most strict in boundaries that it leaves to judge. It should be very effective, if lawgivers know exactly on which cases it should be applied. Consider following 2 statements:

E3: Everyone has the right to life. Human life is worth protection even before birth.

E4: Woman's pregnancy will be aborted, if she writes a request, pregnancy does not exceed 12 weeks and if no health reasons prevent that.

We have considered, in how many different ways can be statement $E3$ interpreted. It is very hard to successfully accomplish the goal by using just linguistic approach in that case. However, $E4$ is written in more precise way and linguistic approach can be more successful. This approach is very good in interpretation of normative rules, which

tend to be written in lower layers of legal system, operating on more specific cases and the core of argumentation can be localized in smaller part of the legal system. On the other side, in reasoning about rules from higher levels of legal system hierarchy, as the constitution is, those rules tend to be more general, covering greater number of possible different cases and thus cannot be so precise and specific, to allow pure linguistic approach in interpretation.

For genetic argumentation, accent is on the supporting arguments and counterarguments, coming from external source. These can be either by analysis of documents discussing problem and possible solutions preceding the enaction of law, the whole status of legal system at the time of enactment, or by more different ways of searching for the intention behind that law. From the conclusions made in the decision of jury [VUS 07], argumenting by intention of lawgiver has only subsidiary character. Problem in such argument can be, that lawgiver is usually a group of individuals, each with possible different opinions on the problem. Final law is an output from process involving analysis of problem, legal system and other materials available at the time.

To sum up, we have 4 different interpretations. Linguistic is precisely logical one, with very strict and predictable outcome, however depends on the precision of given laws and known case to be successful. Practical argumentation is hard to formalize, because depends mostly on the human sense of righteousness. Genetic and systematic approach in argumentation are the most important for this work, I will focus on them. Systematic argumentation handles legal system as a base field for arguments and genetic argumentation adds some external sources of arguments. Knowledge about these different methods of legal argumentation, their complexity and diversity is vital for understanding the complexity of challenges, when we try to apply a formal model to such process.

2.1.3 Denegationis iustitiae vs. incompleteness of law

One of the basic properties of constitutional judgment is the principle of denegationis iustitiae - judge must make a decision, even without having a sufficiently specific text of law[Hol 08]. This is in tension with the actual incompleteness of law. Law is not described by enumerating cases in which and how it can be applied, but is generalized and must be therefore interpreted for actual case. That comes with not fully explicit assignation of terms and context.

For example, from the beginning of Slovak Constitution:

E1: Everyone has the right to life. Human life is worth protection even before birth.

1. What is meant by everyone? We know from more specific statements linked to this one, that every citizen from his birth belongs to this group, but what about yet unborn? Does it include unborn fetus too? If so, why it is mentioned in second statement as only worth protection?
2. How strong is the right to life, is it absolute?
3. What is meant by human life before birth? From what moment can it be considered as human life? Does it have the same quality from the moment of being acknowledged as human life to the moment of birth, or is there some graduation of life quality?
4. What exactly means worth protection? How it stands in against protection of other rights?

The text of constitution aims for a homogeneous set of rules. The form of statements however leaves a huge space for bending the general rules in different way, that is why the

personal consideration of the case by judge is so important. Primary function of judge is to take into account the white spaces in legal system and to find best interpretation for legal rules in the particular case to make just decision with the purpose of constitution, as a reflection of projections of general societal values, in mind. Secondary effect is, that such system leaves possibility for shifting the decision in one way, allowing not so just decision, while still staying in boundaries set by legal system. To have a successful interpretation of law, methods used for interpretation should be used as a whole set, not picking just some of them, similarly as the legal system is a system that should be taken as a whole. Plausible outcome would be to find general principles in reasoning, that would leave smaller interval for judge's own opinion and arbitrariness in the process of reasoning. We can see, that we cannot abstract only some methods, those in which we can apply logic better, but we need to take the whole package of very different methods to be able to successfully describe the process of legal reasoning.

2.1.4 Law and rights

Law and rights are in general covered by themselves, but not in all cases (p. 20)[Hol 08]. Laws should be made in a way, in which they can protect rights stated in constitution. However in some special cases which were forgotten or not predicted, law can act without protection of the right, or even against it. Such differences between application of right protection and the law as it is stated in form of rule should be handled by jurisdiction, but not on the behalf of judge's arbitrariness. Such decision must be laid on rational arguments to show the injustice of pure law application in such special case. We can see, that sometimes the law is not protecting the previous purpose it should protect, because the current case was not predicted in the time of creation of the law and therefore the statutory text does not handle the situation right. In a case like that, it is often reasonable to argue about the primary meaning of the rule more than about

the exact formulation. We cannot abstract only the meaning of statements, but think about the purpose of these statements.

2.1.5 Machine and human reasoning

In logic programs, we are used to have a complete set of facts and arguments on one pile and framework can work with it effectively. Humans however are naturally unable to do so the same way, even in not very extensive cases. From the Miller's observation[Mil 56], humans are able to held only 7 ± 2 items in short term memory. That makes human reasoning more trickier, because we can work only with small set of arguments at once[1]. As we know, we are nevertheless able to reason about problems consisting of more arguments. This skill comes from helping the short term memory by categorization of arguments and picking the working sets with which we can work at a time. The lack of short term memory is unconsciously projected also in legal system. Parts of legal system are hierarchically ordered and only occasionally is some part divided into more than 7 subparts. Even when there is a list, consisting of more items purely by logic of categorization, we tend to divide these items into smaller groups, to better grasp the overall idea, because it is easier to work with smaller portion of problem, create minor solution and then work with set of minor solutions to find solution on higher layer. Our reasoning about problems is driven by natural implementation of divide & conquer strategy. This type of solving problems has its advantages, we can focus on the parts of problem in subcontext and give attention to subproblems in higher detail, what is faster than addressing problem in full size. On the other hand, we sometimes miss relations, which are across the subparts. This property of our reasoning is one of the causes for inconsistencies in legal system. If lawgivers focus on specific part of legal system, they can leave an inconsistency between these parts, even when these parts alone seem to be

[1] We are able to reason about more items at once, but with help of external tools, like paper and pencil

consistent, because they are working always with subset of the problem. Good example is a conflict between different basic rights mentioned in introduction.

2.2 Meta-argumentation

2.2.1 Sustaining the tension

From the conventional solving of problems, we are used to search for the one correct answer for a complex problem. If many views on one problem exist, they cause conflicts. Desirable solution for such situation is to find a way to resolve conflict and enable us to work with the result afterwards. However, sometimes may be more practical not to solve inconsistencies right away, but work with them further. In legal reasoning, we can find many examples of argument, which is built on belief about the truth of a statement. It is not a classical default logic. We often do not have an argument A stated as true by default and $\neg A$ as the alternative, when A is proven false by arguments defeating it. The more precise description of making conclusions about A is consequent one:

We have a set of arguments S_1, supporting argument A, making possibility of trueness of A in broaded context some support from being true in smaller context. On the other hand, we have also a set of arguments S_2, supporting argument $\neg A$. These sets of arguments support both A and $\neg A$ in their contexts of argument sets, which use to be different. Anyway, we can exist with both A and $\neg A$ being possible solutions for an inconsistent set of arguments and each of them being an argument, consistent inside some sets, which are subparts of the original inconsistent set of arguments. Problem is how to solve such inconsistencies. Fortunately Gerhard Brewka and Thomas Eiter presented a framework, which can handle and also sustain inconsistencies during the process of legal reasoning[BrE 09].

2.2.2 Frameworks of Dung and Brewka

For further understanding of this work, the basic terms, used in Dung's and Brewka's frameworks need to be explained. I will cite these definitions from Dung[Dun 95] and explain in examples.

Def1: An argumentation framework is a pair $AF =< AR, attacks >$ where AR is a set of arguments, and attacks is a binary relation on AR, i.e. $attacks \subseteq AR \times AR$.

Example: Argumentation framework consists of arguments and attacks on arguments. We can have set of arguments $\{a_1, a_2, b_1\}$. Attacks are represented by couples of arguments, when the first one attack the second, for example $\{(b_1, a_1), (a_2, b_1)\}$.

Def2: A set S of arguments is said to be conflict-free if there are no arguments A, B in S such that A attacks B.

In previous example, we can find few such sets. The whole set $\{a_1, a_2, b_1\}$is not conflict free, but sets $\{a_1, a_2\}$ and $\{b_1\}$are conflict free.

Def3: An argument $A \in AR$ is acceptable with respect to a set S of arguments iff for each argument $B \in AR$: if B attacks A then B is attacked by S.

We are trying to add argument to the existing set of arguments and it should remain consistent. Start with set $S_1 = \{a_1\}$. We can potentially add $a_2$or b_1. In the set of attacks we have no attack in the form (x, a_2) or (a_2, x) where x is an argument from set S_1, therefore we can make conflict-free set $S_2 = \{a_1, a_2\}$ and a_2 is acceptable with respect to S_1 . However when trying to add b_1 to S_1, we see that we have attack (b_1, a_1) and b_1 is not acceptable wrt. to S_1. If we try to add b_1 to S_2, $b_1 \triangleright a_1$(▷is denotation for attack), but also $a_2 \triangleright b_1$and as $a_2 \in S_2$, $b_1$is acceptable with respect to S_2.

Def4: A conflict-free set of arguments S is admissible iff each argument in S is acceptable wrt S.

S is admissible, if it can defend own arguments against the other arguments just by using own arguments from S.

Def5: A preferred extension of an argumentation framework AF is a maximal (wrt set inclusion) admissible set of AF.

We can see, that $S_2$is the only preferred extension in the previously mentioned AF.

For meta-argumentation framework, which extends Dung's framework, we will need these definitions as presented by Brewka [BrE 09] with mediators and modules.

Def6: Let $A_1, A_2, ..., A_k$, $k \geq 1$, be argumentation frameworks. A mediator for $A = A_1$ based on $A_2, ..., A_k$ is a tuple $Med = (E_1, R_2, ..., R_k, \mathit{choice})$ where

- $E_1$is a set of context expressions for A
- R_i, $2 \leq i \leq k$, is a set of rules of form $s \leftarrow p_1, ..., pj, not\ p_{j+1}, ..., not\ p_m$ where s is a context expression for A and $p_1, ..., p_m$ are arguments in A_i (bridge rules for A based on A_i)
- $\mathit{choice} \in \{sub_{\succ}, sub_{sk\succ}, maj, maj_{sk}\}$, where $\succ$is a strict partial order on $\{1, ..., k\}$.

Def7: Let $Med = (E_1, R_2, ..., Rk, \mathit{choice})$ be a mediator for A based on $A_2, ..., A_k$. A context C for A is acceptable wrt. sets of arguments $S_2, ..., S_k$ of $A_2, ..., Ak$, if C is a choice-preferred set for $(E_1, R_2(S_2), ..., R_k(S_k))$.

We will cover the concept of mediators between argumentation frameworks in deeper detail in on-coming sections.

2.2.3 Meta-arguments

To successfully describe processes in legal argumentation, we will need to introduce meta-argumentation into the process. Meta-argumentation uses beside ordinary arguments also arguments about arguments. We can use hierarchy of layers for distinction of different levels of meta-arguments [WMP 05]. We will consider hierarchy of arguments $\triangle_0, \triangle_1, ..., \triangle_n$. Layer $\triangle_0$ could represent facts about the world, $\triangle_1$ could represent arguments using these facts, in $\triangle_2$ could be arguments about quality, validity and other properties of $\triangle_1$, and we can build the hierarchy higher.

Example:

$\triangle_0$: Woman is pregnant. Woman does not want a child.

$\triangle_1$: (law) If woman is pregnant and fulfills some conditions, she could have an abortion.

$\triangle_2$: (proponents of law change) Law is not in concordance with constitution and has to be changed.

$\triangle_3$: (judges) Arguments of proponents are not sufficient for change, because they did not show conflict of law with constitution.

$\triangle_0$ are statements, that all concerned take as facts, base properties of case. Let us have in $\triangle_1$ laws, which do handle the facts from $\triangle_0$, and statements from external sources, that also offer arguments using facts from $\triangle_0$. In $\triangle_2$ we can put the argumentation about arguments from $\triangle_1$. That can include arguments about the validity, justness, or morality of arguments from the $\triangle_1$layer, presented by proponents of change and also those of defendants of current law. We can put there not only support for own arguments in $\triangle_1$ and attacks on arguments from $\triangle_1$ layer presented by opposing side, but also attacks on arguments from the same layer. Finally, in $\triangle_3$ are arguments not

only about layer $\triangle_2$, but about the whole part of hierarchy under this layer. $\triangle_3$ are presented by judges, which are the final instance in this case.

2.2.3.1 Function of layers

Interesting fact about this is, that for example, prosecutor and defendant use the same layer of arguments $\triangle_1$, however they make their arguments on layer $\triangle_2$ by using different sets of arguments from $\triangle_1$, which support their stance and help them to build their arguments on higher layer. Arguments in one layer does not need to be consistent, only subsets of arguments, which are chosen by opposing sides should be internally consistent.

Argument A_1 from layer $\triangle_1$ is supported by argument A_2 in layer $\triangle_2$, which states, that A_1 is verified by X. In next iteration of argumentation comes A_3, which states, that X is not reliable source of verification, therefore it attacks A_2 and A_2 is defeated. However, we do not even need to check layer $\triangle_1$ for changes, because such argument as A_2 does not have effect on set of arguments in $\triangle_1$. For illustration, we can state

A_1**:** Abortion at 12 weeks of pregnancy is not right because of the fetuses state of development.

A_3**:** A_2 is not good argument, because person X has no medical background and is not in position to know.

A_3 does not attack A_1, it just attacks A_2 in layer $\triangle_2$ and disables propagation of this argument from $\triangle_1$ to upper layer. It means that this does not change arguments in $\triangle_1$ just defeats arguments in $\triangle_2$, which tries to propagate argument A_1 from $\triangle_1$ to $\triangle_2$. Layers work in the proposed system as filters for inconsistencies.

2.2.3.2 Standard model of constitutional jurisdiction

The same notion of meta-argumentation can be found not only in the model of argumentation, but also in argumentation about laws formed in hierarchy. Now is time for application of Brewka's framework with notion of these layers in mind for a simple standard model of argumentation. We will use some modifications to that framework, to achieve more accurate model of reasoning. These changes will not make the framework more effective, or more successful. Goal is to better approximate the process how we humans think and argue in these cases.

Let us have a standard constitutional juridical case. Judge has to resolve a case. We have two sides, prosecution and defense. Both present their arguments, supported by their interpretation of laws from legal system and arguments from external sources. What are the main sources of conflicts?

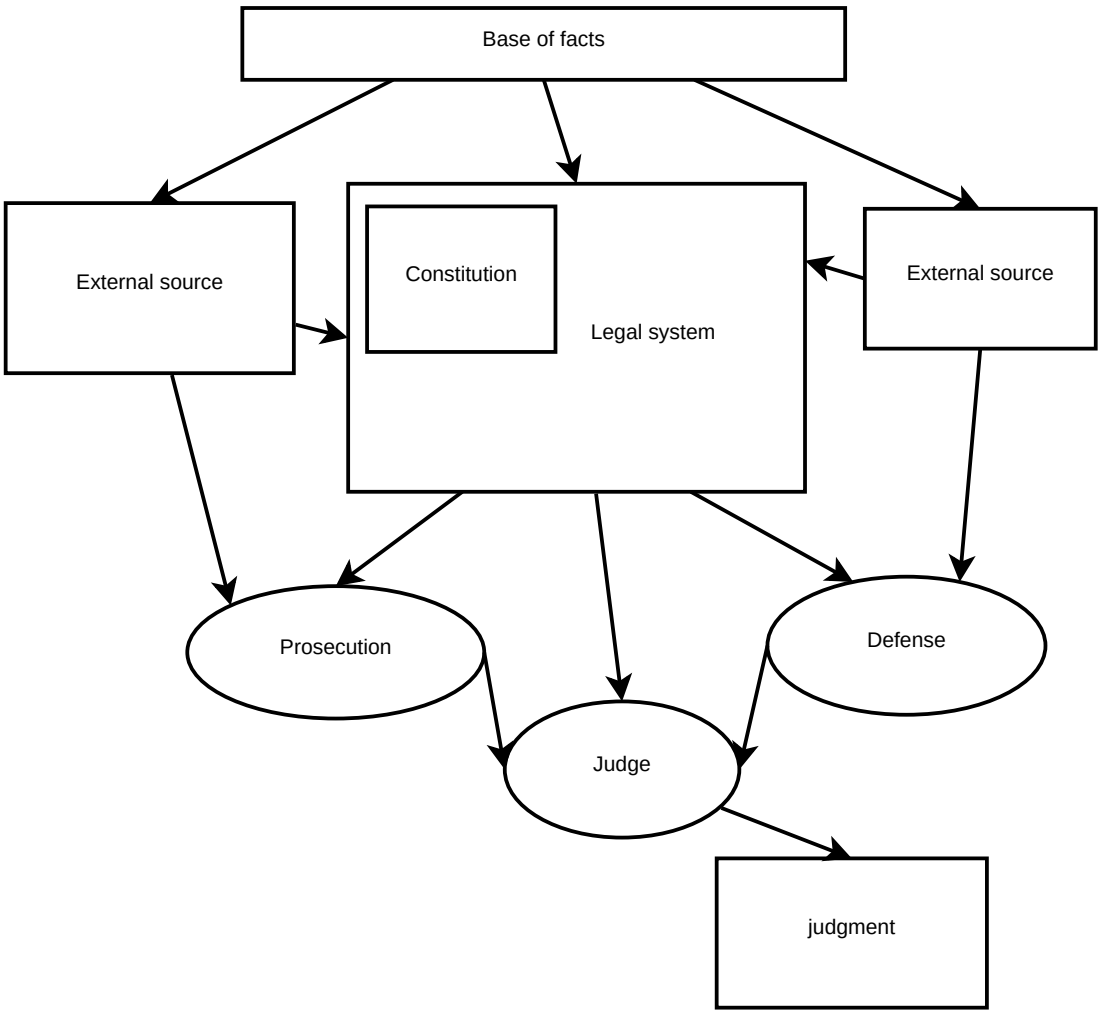
C1: arguments from prosecution, attacking arguments from defense and vice versa.

C2: interpretation of law from defense and prosecution sides.

C3: judge's interpretation of laws vs. those presented by defense and prosecution

C4: inner conflicts in legal system (between different parts of system, or constitution and its interpretation in laws lower in hierarchy)

C5: attacks from external sources on righteousness of laws in legal system



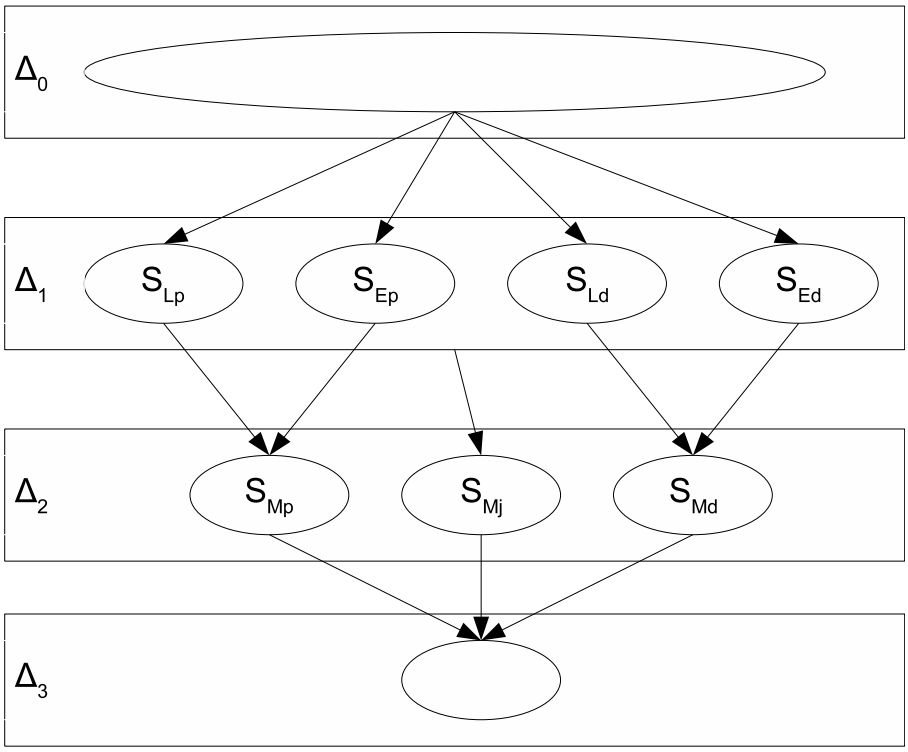
This is how the standard process looks like. We can divide these sets of arguments into layers.

- $\triangle_0$ - basic facts about case, which are verifiable and all concerned can agree upon
- $\triangle_1$ - laws from constitution and whole legal system and external sources - only subsets are chosen for further argumentation and these subsets does not need to be consistent externally with the other subset chosen by other side. External sources can be non-legal texts, opinions and statements from other institutions, other legal cases, etc.

- S_{Lp} - set of laws used by prosecution
- S_{Ld} - set of laws used by defense
- S_{Ep} - set of arguments from external source used by prosecution
- S_{Ed} - set of arguments from external source used by defense

- $\triangle_2$ - arguments used by prosecution and defense, either picked from $\triangle_1$or transformed from $\triangle_1$in the process of propagation to $\triangle_2$. Different sets may be inconsistent in relation to the other.
  - S_{Mp} - set of arguments and meta-arguments about arguments from $\triangle_1$ used by prosecution
  - S_{Md} - set of arguments and meta-arguments about arguments from $\triangle_1$ used by defense
  - S_{Mj} - set of arguments and meta-arguments about arguments from $\triangle_1$ used by judge

- $\triangle_3$ - judge's arguments, using methods of propagation from lower layer and building extension by combination of S_{Mp},S_{Md} and S_{Mj}.



In the previous lines I wrote about picking the right arguments and propagation of arguments from lower layer to higher level. Arguments are picked by accepting them in their context (Def3), when they are not attacked by any previously accepted arguments. Propagation is meant in sense of choosing an extension from set in lower layer for usage in set in higher layer. I personally do not think, that chosen extension should be neither minimal nor maximal in the means of amount of arguments. Skeptical choice of set is not the most wise, if goal of argument set is to defeat the opposing side. However credulous choice might not be good either, because some arguments may be redundant for further argumentation and as I stated previously, people need to use smaller sets of arguments for successful argumentation.

The goal of propagation from lower to higher level is to keep the set of arguments in particular layer minimalistic and internally consistent. Therefore we don't

need to keep full tree of attacks and counterattacks that preceded acceptance of argument in higher layer. We can always pick it to some extent, when the particular argument is attacked by other side. Brewka used term mediator (Def7). I will slightly change the concept of mediator for better reflection of what we need in this application of his framework to this case.

2.2.3.3 Layer propagation and inconsistency handling

From observation of such reasoning we can see, that the basic principle of meta-argumentation on layer $\triangle_n$ is as follows. We have n opposing sides of argumentation. For illustration, I will use just 2, call them P as prosecutor and D as defense. Both use their own sets of arguments from layer $\triangle_n$, $S_{np}$and S_{nd}. Arguments from n-th layer are meta-arguments about arguments in n-1-th layer. Arguments from n-1th layer are propagated to n-th layer by wrapping them in meta-argument and thus are chosen to the higher layer. New arguments in n-th layer does not need to change anything in n-1-th layer, only change which arguments are chosen for usage in higher layer. This means, we can have inconsistencies in layers, only sets chosen from layers should be consistent.

I will illustrate on example: Let us have both argument A "Unborn life is well protected by current abortion law" and also its negation $\neg A$ in the same layer $\triangle_1$. Now, defense uses internally consistent set of arguments S_{1d} which contains argument A. Prosecution uses argument set S_{1d}, which contains argument $\neg A$ and is also internally consistent. Both can propagate their arguments to the higher layer, because propagation is done by mediators working on their specific sets of arguments inside the layer.

For more complicated cases, we can even divide layers to more sublayers and

sets to subsets. By that we can achieve more structured hierarchy of argumentation and sets of arguments more manageable, with less arguments at once.

2.2.3.4 Strength of meta-arguments

We can see different types of strength of meta-arguments. A_1 in $\triangle_2$ claims that B in $\triangle_1$is true, because it is supported by C. A_2in $\triangle_2$claims that $\neg B$in $\triangle_1$is true, because there is no argument against $\neg B$ in $\triangle_1$. How can such situation occur? Both sides do not use the same set of arguments from $\triangle_1$. Imagine it in context of juridical reasoning. In $\triangle_2$ we have set of arguments from prosecution and defense. They build their arguments in the same layer $\triangle_1$, however they do not use the whole set, just the subset, which generates arguments in their favor. This will not be decided in $\triangle_2$ layer. Judge and his argumentation, standing in layer $\triangle_3$has to resolve this conflict. In this case, judge can use argument C, which was used in set of arguments for supporting $A_1$and by that disprove $\neg B$, which means, that B is true in this iteration of argumentation. Therefore we can accept argument in its context at layer $\triangle_2$ and propagate it to higher layer, where it comes to broader context. If it can be defended in broader context, it is a stronger argument than these defeated on lower levels.

2.2.3.5 Iterations in meta-argumentation

Meta-argumentation is not static. As we already know, process of argumentation is iterative. When new information comes into the system of arguments, the whole model of argumentation must be recomputed for making sure the existing extensions and conflict-free sets stayed as before the new argument came. If not, these must be changed to reflect addition of new argument. Let us check what is the difference between iterations on argument set in standard argumentation and in meta-argumentation in the form

of this framework. When new information comes into part of argumentation in some specific layer of meta-argumentation hierarchy, it does not need to change whole model of argumentation. Mediators just pick the arguments from lower level to higher and we will now discuss their function.

2.2.3.6 Mediators

As I mentioned before, to approximate the human reasoning, we should keep the working sets of arguments sufficiently small. This can be achieved by propagating only the most important part of arguments to higher layer and leaving the context on which was the final argument accepted in lower layer. These should be the arguments, which are important for further argumentation, solid points supporting own point of view, or strong attacks on the arguments of opposing side.

Example: In set S_{Md}we have few arguments, which we can efficiently discuss. New argument B_1 comes to this set with its attacks. So we check the set for arguments, which are attacked by this argument. If there is some, we will use mediator, which propagated this argument to current layer and left its supporting arguments in the lower layer. This mediator can give us the argumentation tree behind the acceptance of the attacked argument. Then we can work with the argument and its supporting arguments and decide the outcome of attack.

Mediator keeps track of arguments, which were propagated and keeps knowledge about the supporting and attacking arguments. At this state of our knowledge about mechanics of constitutional reasoning, it would be naive to imagine mediator as a selfstanding program. We are not able to make efficient automatic mediator because of the complexity of tasks it has to handle. Maybe it would be better to imagine a person, who can use partially some good methods and principles to achieve successfully the task.

Such mediator gives no guarantee, that his choice will be the best one, but should use some heuristic methods.

Due to the complexity of mediator's tasks, I will only sum up without formalism its tasks, which it should handle.

- It should be able to decide, if the attack on argument is successful in the specific argument set. It needs usage of methods from real constitutional reasoning. This is the hardest problem and we need more research of that process, to come with some basic usable methods and be able to produce decisions similar to some level with the decisions of people usually involved in the process. We could call that handling of set consistency.
- It has to choose which arguments should be propagated to higher layers by their importance to the case, their reliability against other attacks on them, or their function as attacks on the arguments on opposing side.
- It should keep track of the process behind accepting argument and propagating it to higher layer. When new argument comes to the layer, attacking argument previously propagated from lower layer, it has to return the argument structure, which led to accepting and propagating of this argument before.

This approach is not the most effective one in the context of working with arguments and handling the inconsistencies, but I think it is a good approximation of consensus between how people select arguments naturally and work with them, and the full power of this formal framework, if we used it on more formalizable argumentation case than the constitutional argumentation is.

2.2.4 Approximation of real argumentation

To sum up previous paragraphs, we came with notion of the methods of non-monotonic logic and meta-argumentation, and tried to apply such methods on complex process of constitutional reasoning. Brewka's framework is usable in such process to some extent. Constitutional reasoning is very complex process due to the diversity and complexity of methods used in it, what I have demonstrated with sections about its nature, preceeding the actual proposal of the framework application. Framework operates on strict rules, which are not fully applicable in our case and therefore we cannot (at least with the current knowledge of the process) make a model in this framework, able to make decisions without pretty massive external human help in deciding which arguments can defeat other, or choosing which arguments are good for usage in higher layers of the argumentation model. However, it is important to find and describe (even without giving a working solution) the challenges, which are the cause of the need for human actions in the process. These challenges are unique, but many of them share some common properties, which can be described and maybe even be handled in a heuristic way with good percentage of success. In next chapter, I address some of these problems. Successful heuristics for solving these can move us closer to the distant, more precise model of the constitutional reasoning, or legal reasoning in general, that would need less of the external help for its functioning.

Chapter 3

Practical examples of principles

I have presented the system of juridical reasoning about meta-arguments. However, it is not always clear, how and when argument attacks another argument, and how can mediators work in propagation of arguments higher in hierarchy. The problem comes mainly from the natural language, attacks on arguments tend not to be as clear as we would like them to be. As I have covered in the part about basic principles of constitutional reasoning, it is not easy to validate attack on argument as successful, because of the variability of possible attacks and also because of the nature of some of these attacks. In this chapter, we will discuss some of the principles of constitutional reasoning, helpful in evaluation of attack successfulness.

3.1 Argument from one side arguments set conflict.

We will start with simple example from the text of court decision.

S1: Everybody's life is protected by law

S2: Abortion is admittable in special cases, like endangered health

S3: Right for living cannot be taken and is of higher priority than all the other rights.

S4: Life of fetus is equal to life of born person

Both sides agree on first three statements. Proposers assert statement $S4$, with which opponents do not agree. Let us have this particular case and work with $S4$ as one of the 4 facts, from which we make argumentation:

C1: Woman wants abortion of fetus, because her health is endangered.

Now we can build some relations from those statements. From $C1$, we can conclude such statements as:

S5: Life of fetus must be protected, so abortion is forbidden. - from $S4$

We can easily see, that $S5 \triangleright S2$, and also $S2 \triangleright S5$. If woman and fetus are equal, right for living has higher value than right for health. In that case, even woman whose health is endangered, cannot get an abortion. Taking $S4$ as valid argument creates easily conflict with other arguments, which both sides support, in this case $S2$.

So first type of argumentation principle, which is used in constitutional reasoning, comes from inconsistency of one side owns set of arguments. Inconsistency between sides in argumentation is common, usually comes from difference between values held by opposing sides. One flaw is however, if such inconsistency comes from the set of arguments, which are proposed by one side itself. Invalidation of statements set integrity creates a strong argument against other side. It is one of the most serious errors in argumentation, when own arguments are inconsistent in their own context, even without the arguments from other side.

3.2 Law testing

Interesting argument was presented by jury Ján Luby in [VUS 07] about constitutional testing. He argumented with the different age of abortion law and constitution. Constitution is higher in hierarchy and the law should be compliant to it. Constitutional testing of law should give an answer, if such law is in compliance with constitution. However, as the law was enacted in year 1986 and constitution in 1993, it rises a valid question, if law is compliant, when there was not a time to test it.

A1: Every law is made in accordance with constitution

A2: Abortion law(1986) is older than constitution(1993)

A3: Abortion law was not changed since creation

Even if such argument does not prove that the law is not compliant to constitution, it attacks in this case basic principle of law giving, that every law is made to be compliant with constitution by leaving 2 options. Law was compliant in advance and therefore there was no need to change it, or it was not tested and then it defeats argument from compliance.

3.3 Conflict from differing values

Conflicts from differing values are very common in constitutional reasoning. However, it is hard to find a solution for such arguments, because we cannot exactly evaluate our values. What we can do, is to search for boundaries, in which values float.

For example, let us take the relation between the protection of born human life and protection of unborn life. We cannot give exact values to these rights and

compute the result. We can search for decisions and actions, that all of people can agree upon and then deduce some approximations of such values.

3.3.1 Elimination of extreme values

Our society is built upon accepting freedom and differences between people. But it also has some limitations. We can give a space for arguments from different cultural groups and try to find a consensus, in which nobody's opinions are pushed in background. That applies for all standard groups, but we do not tolerate extreme opinions from groups harmful to society, we do not take into account of decision opinions for example of mass murderers. Similarly, in the context of the abortion case, judges cannot put a much weight on opinions about values, coming from orthodox believers.

3.3.2 Sorting of values

For example, let us take the relation between the protection of born human life and protection of unborn life. It would be extremely hard (probably impossible in many cases) to give exact values to these rights and compute the result. We can search for decisions and actions, that all of people can agree upon and by that approximate the intervals, in which are these values set. Then we can eliminate or minimize opinions of people with extreme opinions highly conflicting or harming opinions and values of the other members of society. In this case that are the opinions of people, who state, that unborn life must be protected, even if it means that woman dies, as is legal in some third world countries. Search for value intervals, on which all sides can agree, should be the next step. If both sides agree that woman can have abortion, if her life is endangered, we can see, that both sides value life of born people more than unborn

life, even if one side may say that it has the same value in another argument. That rises another question of consistency.

3.3.3 Value consistency

From the previous example we can continue discussing the consistency of values, presented in different arguments. To maximize gain from own arguments, many arguers tend to use value based arguments, which have inconsistent values assigned during the argumentation process. Proposers of change in abortion law stated, that article 2 in European Convention on Human Rights, which handles the right for life is meant to apply also for the unborn life. However, in another statement they argue that they have no problem with abortions, when life of woman is endangered. But if unborn life was protected by article 2 of convention, this would not be possible, as all riddance of life is forbidden by it. Thus it would conflict with the evaluation of unborn life value that they assert in case of life threatening pregnancy. Therefore there is an inconsistency, which needs to be handled. More than one method can be used. Sometimes argument about values, where was such inconsistency found, can be invalidated, or at least taken into account with much lesser strength.

3.3.4 Weighing values

Another problem is how to counterbalance sets of conflicting rights. We have shown that values for rights even if cannot be measured precisely, they can be estimated from the arguments. We can in most cases restrict their values to the intervals. Two cases can occur between two rights. If higher boundary of interval for first right is lower than the lower boundary for second right, we can assume that the second one is much more important and we cannot tolerate unpunished the violation of second right in the

preservation of other. For example, consider a person, who went to private area and was shot by owner of the place. Violation of right for privacy cannot be a reasonable argument for act, violating right to live. However, if such person attacked the owner, these intervals could start to overlap and judge must consider, if shooting the attacking person was a proper use of self-defense (if the life of owner was endangered - then it could be not right for privacy, but maybe right to live against the right of attacker to live).

For more complications, there are not only 2 rights in conflict, but sets of rights. Back to the abortion problem, on one side is fetuses right to protection and a portion of public good, and on other side are basic rights for woman for privacy, access to health care, dignity, liberty and other. Problem is how to handle such sets. There can be many possible approaches for deciding solutions, if we use intervals for values. We can use centers of value intervals, sum up such values for one side, and compare to the sum of opposite values. Or we can use minimums, maximums, different combinations of these. Question is also if simple addition is good approach. I cannot tell which of these approaches is better or if there is no better solution for this problem, so I will leave this an open question for further research. However, even setting the intervals from arguments, as I proposed, is a small step for better control of juridical decisions.

3.3.5 System for approximation of values

Example: What the use of value intervals brings? We have 2 rights (A,B) with unknown values $v(A)$, $v(B)$ (v is interval). $A \triangleright B$ and $B \triangleright A$. Let us consider argument C, about which we already know, that $v(C) < v(B)$ and $v(A) < v(C)$. We can conclude from transitivity, that $v(A) < v(B)$. However, if we had in disposition only $v(C) < v(B)$ and we know that $v(A) > v(C)$ is not known fact, does it mean, we should make $v(A) < v(B)$ default option? No, if we use values as intervals,

or at least not in the same power as the $v(A) < v(B)$ concluded from the first example.

3.4 Majority argument, invalidation by diversity

Proponents of change in abortion law argumented with legal systems of other countries. They named Malta and Ireland as states, where abortion is prohibited.

F1: Slovak constitution is based on international agreements

F2: All European countries follow international agreements

S1: In Ireland and Malta, abortion is prohibited.

S2: More strict rules on abortion are needed.

Both sides and judge take as facts $F1$ and $F2$. Is $S2$ supported by $S1$ in context of $F1$ and $F2$? Yes, it is valid and strong argument in such context. Does it mean, that $S2$ must be true? No, it is just one of the arguments that can support it. What if other side mentions non-European country, in which abortions are permitted? Such argument is not valid counterargument, because $S2 \leftarrow S1$, but it can be used only in context of $F1$and $F2$.

Judges in conclusion mentioned, that in Europe are many countries, which have similar laws like Slovakia, or even more liberal in theme of abortions. For example Sweden does not handle abortions by law at all. What is the best method for changing temporary decision about the strength of this type of argument after filling more data? We have practically two ways of doing it. One way is to weigh the argument by adding values to arguments about separate countries and on the end count them up to find

maybe average, appropriate strength of the abortion law and then confront it with the actual state of law. However, there are problems with objective setting of such values. We do not know how to set scale for valuation of law's strength and we do not know how to give values to contribution of different states (for example if Malta with 400 thousands of citizens has the same contribution as Sweden with 9 millions). It may be tempting to do such evaluation, however it does not make decision any easier. Judges agreed, that the legal status of this law is in other countries so different, that argument of other countries is not valid. So if we would have major consensus on this law in other countries, argument would count as valid, but as it does not happen, argument is invalidated. It offers an interesting principle of legal reasoning. Validity of argument can depend solely on its value outcome. If value is not significant, we can dismiss such argument. It helps with making a model of case (legal reasoning in fact is creation of simplified model of real case) simpler and easier to decide, which is significant help for judges.

3.5 Principle of proportionality

Principle of proportionality is one of the most known constitutional principles used in application of law. Each process, act, decision or legal rule must be in conformity with general principle of proportionality. This principle is considered when some constitutional principles or rights are in conflict and presumably there is no available solution, which would cause no harm and preserve all of them. Principle of proportionality is generally known [Hol 08] and accepted, so I will present it's 3 subparts.

3.5.1 Effectiveness or suitability

Every legal action must be proved, that it is an effective way of handling the problem. Goal is always to preserve the other rights, while violating some rule or some human right, which preservation is not possible.

Consider this example: Woman is pregnant, however pregnancy is complicating her health and there can be such result, that woman will not survive through pregnancy and birth. Constitution usually grants several rights and freedoms, from which the preservation of citizen is the most valued one. Let's take into account a constitution in country, which makes abortion legal only in special cases like critical endangerment of woman's health.

We have 2 different values here. First one is the value of woman's life, which can be endangered. The threat of violation can be estimated in various ways. In many times we have available statistics, which can show us the prediction of probability, based on the concrete parameters of the case. We can see, that the life of woman has, when put without context, higher value than value of unborn potential child. Simply from the fact, that the constitution of this country allows abortion in serious health hazard of pregnant woman. Second value is that of the protection of unborn life. As in the country we used as in this example, abortion is not legal without good reason, we can deduce that protection of unborn child must have some (not specifically given) value.

To search for the approximate values of woman's and fetuses life, we can use methods mentioned before in this text. We are able to analyze the previous decisions of people, who agreed or declined abortion in specific cases of woman's health being hazarded by pregnancy. Expected result is a map of decisions, which we can sort by giving them positions according to the actual probability of health endangerment approximated from the statistics based on observation from the individual cases held

by medical institutions. These statistics could have some errors without doubt, but it is better to have approximation with some interval of error than having no approximation of the possible risk at all. For example, different portion of cardiac women die at giving birth from heart attack as hemophiliac women from unstopped bleeding, therefore the risk ratio will be different. As the result, we will have a map of decisions, sorted from the least endangering to the most risky. Now what would we expect, is that for the least risky cases the decisions would be only denials, then with the rise of risk some cases of acceptance occur, change to majority and then start to prevail to the state, when acceptance is the only option. However, there will be also cases, which will not comply to this and we can find such unpredictable decisions. That could mean, that the decision was bad. Cause may be personal judgment of the person making the decision, lack of evidence or knowledge about risks in the time of decision or the not knowing of the other cases, which can better specify the interval in which decision should have been set.

Such investigation of other decisions and therefore searching for argument by values represented in the form of these previous decisions as I described is actually done in real cases to the various degree. Referring to previous decisions in similar cases in the past is common practice in justice, however the usage of statistically more significant sample and actual analysis based on statistics of previous decisions is very exceptional. Cause can be not only some kind of refusal of need for deeper examination, but also general lack of such usable data, or that the data is not in the form, from which such analysis can be done without giving too much energy of getting it in such form usable in analysis.

Effectiveness or suitability is in general product of process of reasonable risk or probability estimate. If I consider being hit by a train, staying home is definitely not effective solution, because it is not appropriate to the risk. Looking around outside sometimes for the train is not most effective way of avoiding risk, but its cost

is negligible. Looking for train possibly coming when near rails is definitely effective and appropriate way and going on rails when seeing coming train is just unsuitable. The same applies for legal decisions. They can be made not appropriate in both ways, ineffective, or effective, but with higher cost than effect. However there will be some interval, in which are decisions, which does not need to be absolutely effective, but at least with good approximation of effectiveness.

3.5.2 Necessity and subsidiarity

Another part of the principle of proportionality is necessity and subsidiarity. Necessity means, that legal action, obeying basic human rights, must be necessary. It means, that no other available option exists, which would not violate rules or rights, or violate them in more acceptable manner[Hol 08]. If there is another solution for the problem, such solution must have a greater impact in terms of violating of rights, or rules, than the suggested one. In other case, such solution is not the best alternative, because the solution, which does not violate basic rights of people, or at least violates them in lesser effect, must be preferred. This is valid even when the alternative is not doing any action. Therefore legal action must be proven to create positive effect, not only that better alternative does not exist. It must bring positive effect, showing that it has no harmful effects is not enough. For example, when we consider abortion law, on practical level are more specific rules. In the text of abortion law is specified, that woman must make a written request as a step in the process for abortion. This is not just for a bureaucracy without any meaning, that would be against the necessity of principle of proportionality. Making this and other steps actually

3.5.3 Proportionality stricto sensu

After making sure, that the two parts of the principle are satisfied, consideration about proportionality stricto sensu has its turn. This part of principle states, that the advantages and disadvantages of such decision must be balanced. As the previous two sub-principles, this one also needs for a reasonable conclusion a decision based on some preferences. To be able to successfully decide such a problem, we need to find out what affects the problem of valuation and setting of preferences in legal reasoning. This applies not only to principle of proportionality, but to many other different legal principles.

3.6 Public good vs. private rights

Conflict between rights of individual and public good is very common and hard to decide. In general, its form can be described as conflict between argument of higher weight vs. sum of arguments with lesser weight. Nice example is for example vaccination. Health of person is the subject of right for privacy. However, unvaccinated person can raise the risk of getting serious disease for other members of society. Therefore we have conflict of one violation of person's right against the risk of endangering other members of society. Thus we need to balance the one serious violation against the sum of possible violations by rising the risk. The same applies for drunk drivers. Driver will be punished for driving under effect of alcohol even when his driving had not done any harm, only rose the risk of accident. In such cases we do not have specific persons who could be harmed, only the term public good.

In the context of the argumentation about abortion law, we can see similar conflict. Proposers of change argue with the value of unborn fetus and give it maybe a

little higher value than the rest of society. That value does not come from medicinal, scientific knowledge about fetus, but rather more from the historical, cultural, maybe religious perspective. We can also discuss the public good vs. private rights conflict here, because the rights of individual, pregnant woman, stand against the moral values of the part of society, who have different understanding of values in this case.

I cannot miss to mention, that different people have different opinion on the relation between importance of rights of individual and importance of so called public good. These conflicts are hard to decide, because different people have their values set differently. One judge can decide the case differently as another, solely on his view of values. Therefore for these reasons, committees of judges use to generate decision together, so the problem of differing opinions on values would be not eliminated, but at least abated.

Chapter 4

Conclusion

In this work we have taken a step into understanding mechanisms in constitutional reasoning. Many publications before presented an insight into area of law with perspective of logic. Even when teaching logic, simplification of legal case is often used as example for better understanding of the theory behind that. However, constitutional reasoning uses principles, which cannot be so easily modeled as simple case and do not use only such methods, which are purely based on logic, as I have surely presented in this work. Many methods are driven by human perception of moral values and the sense for right and in many cases can slightly differ from person to person. This tends to leave whole concept of constitutional reasoning for many people outside of the space, in which they try to apply the knowledge of logic.

Sure, we are not able to fully apply some logical framework on constitutional problem, state the arguments and set up all properties for a system, which could compute the one and the only right decision. It is not so simple. However, we are able to define some principles and methods, which are generally used in constitutional reasoning already and we can follow the argumentation, decisions and the whole process of

reasoning by judges and other people involved, to find out, if they stick to the general methods of reasoning, and if their outcome is not completely different from outcome, which we could predict by using these methods to some extent.

Principles and methods were observed in empirical text with the examples of real process of constitutional legal argumentation. Some of them are already known and defined to some extent, as principle of proportionality for example, but many of them are used naturally, without thinking about them, or even being aware of the usage. Therefore not only materials on reasoning from legal experts, but analysis of actual cases of reasoning is not only equally important, but I think more important. The discovery of yet unknown, undefined methods, but naturally used by people involved, can bring us more deeper into understanding of the process as a whole.

I have used the framework for meta-argumentation by Brewka, which is very recent, only 2 years old in the time of writing of this work, so not much of an example of usage was yet presented in public, and applied it on case of constitutional reasoning. This framework fits well to the problem, I had to extend and change the concept of mediator as presented by its creator to fit the needs of this application. Also I have presented different methods of evaluation of success in attacking an argument, because as we have seen, it is not easy to agree upon the success of attacks due to the diversity and complexity of possible attacks.

Methods of reasoning I have written are not a complete set and neither they are fully covered. One of outcomes of this thesis is a proposal of various methods, which could be observed to deeper detail and also as an impulse for searching for more such methods, used in real constitutional reasoning, which can be found, observed and studied.

This work, as I am student of cognitive science, had to be interdisciplinary. I have applied non-monotonic logic in the area of human reasoning, using framework for

meta-argumentation and described the challenges standing in more detailed application of such approach. Such model of constitutional reasoning cannot work at the moment without many external inputs and monitoring of the process. Recognizing success of attacks on arguments is often based on perception of morality, human values and many other parts and properties of human mind and cognition. Scientific research in most of these areas is in early phases, so I had to use just my observation for some of the claims presented and I hope forthcoming works will cover some of the problems I have observed, in deeper detail and from more perspectives as I have tried. Constitutional reasoning is a great challenge to understand and just the one perspective - of the lawyers, is not sufficient. It contains phenomena which could be studied by psychology, neuroscience, even artificial intelligence, and therefore is a great material for further studies in cognitive science.

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