Try To See It My Way
Persuasion in Legal Discourse

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We Can Work It Out
Law Is Based On Disagreement

- A disagreement about a decision
  - Although the disagreement may be rooted in divergent beliefs, this is not always the case
- The parties attempt to *persuade* the judge to see it their way
- Judges attempt to *persuade* the world to see it their way
Why Do People Disagree?

• Through ignorance
  - They may lack a crucial piece of information

• Through weakness
  - They may not be able to draw a conclusion

• Through deliberate fault
  - They may refuse to draw a conclusion

Easy to reconcile, through education, through training, through goodwill. Proof is possible here.
But Sometimes Disagreement is Rational

- Both parties agree on
  - Facts
  - Logic
  - Validity of Arguments
  - Which arguments attack each other
  - Rules of fair debate

- But still disagree as to which arguments should be accepted
Brown sees force in both arguments - but what Brown does depends on (reveals?) whether Brown prefers equality or enterprise at a given time.
Values Have Different Weights for Different People

• We may both accept that both equal distribution AND enterprise are good,
• BUT I might sacrifice enterprise to equality and you might sacrifice equality to enterprise
• So we can agree that both arguments are valid, but disagree as to what should be done
• The strength of an argument (for an audience) depends on the strength that audience gives to the value accepting it promotes
Education Debate

Universities need more money to maintain standards.

More money would require taxes to rise.

Irreconcilable difference in values: educational standards versus whatever is served by inadequate taxation.
As Perelman says:

• If men oppose each other concerning a decision to be taken, it is not because they commit some error of logic or calculation. They discuss apropos the applicable rule, the ends to be considered, the meaning to be given to values, the interpretation and characterisation of facts.
Perelman Again

- "Arguments which justify our opinions, choices and decisions are never as compelling as demonstrative proofs: they are more or less strong, relevant or convincing. A demonstration is correct or incorrect, it is imposed absolutely or lacks value; but in argumentation it is always possible to plead for or against, because arguments which support one thesis do not entirely exclude the opposite one; this in no way means that all arguments are of the same value"
Perelman Once More

• “Logic underwent a brilliant development during the last century when, abandoning the old formulas, it set out to analyze the methods of proof used effectively by mathematicians. ... One result of this development is to limit its domain, since everything ignored by mathematicians is foreign to it. Logicians owe it to themselves to complete the theory of demonstration obtained in this way by a theory of argumentation”
The Audience is Crucial

• Whether an argument is preferred may depend on the audience as much as the argument itself

• Arguments may derive their force by the values they promote, and audiences may differ in how they prize those values
Form of an Argument for Practical Reasoning

1) In these circumstances
2) You should $\varphi$
3) Because performing $\varphi$ advances some good $G$ in these circumstances
   - Income tax should be increased because this would lead to a more equitable distribution
   - Income tax should be decreased because this would promote enterprise

We can analyse (3) further but there is no need to do so in this context.
A Practical Argument

- **Must be sound**
  - The action must promote the good in the circumstances

- **Must promote an accepted value**
  - Otherwise it cannot persuade
  - The action is desirable only if it promotes what is considered good

Different audiences may accept different arguments if they subscribe to different values.
Approach

• Start from Dung’s Argumentation Framework
  - Abstract enough to avoid questions of what counts as an argument or attack

• Extend this to include notions of value and audience
  - Value Based Argumentation Frameworks
Dung’s Argument Framework

- Introduced in AIJ 1995
- Arguments at their most abstract
  - Only: which other arguments does an argument attack?
- Attacks always succeed
  - We cannot accept an argument and its attacker
Definitions

An argumentation framework is a pair
\( AF = \langle AR, \text{attacks} \rangle \)
- Where \( AR \) is a set of arguments and \( \text{attacks} \) is a binary relation on \( AR \), i.e. \( \text{attacks} \subseteq AR \times AR \).

An argument \( A \in AR \) is acceptable with respect to set of arguments \( S \) if:
\[
(\forall x)((x \in AR) \land (\text{attacks}(x,A)) \rightarrow (\exists y)(y \in S) \land \text{attacks}(y,x)).
\]

A set \( S \) of arguments is conflict-free if
\[
\neg (\exists x) (\exists y)( x \in S) \land (y \in S) \land \text{attacks}(x,y).
\]

A conflict-free set of arguments \( S \) is admissible if
\[
(\forall x)((x \in S) \rightarrow \text{acceptable}(x,S)).
\]
Preferred Extension

• A set of arguments $S$ in an argumentation framework $AF$ is a preferred extension if it is a maximal (with respect to set inclusion) admissible set of $AR$.

• Preferred Extensions are interesting because they represent maximal coherent positions, able to defend themselves against all attackers.

• **BUT:** there may be multiple preferred extensions, and no way to choose between them.
Odd Cycle

Preferred Extension is the empty set

We can’t accept Anything here

Akin to Paradoxes
Even Cycle

Two Preferred Extensions \{a,c\} and \{b,d\}

We can accept Either a and c Or b and d

Akin to Dilemmas
In general

- Every AF has a preferred extension
  - Which may be the empty set
- AFs do not have a unique preferred extension
  - Even cycles give rise to choices
- An argument may be in every preferred extension (sceptically acceptable)
- An argument may be in some preferred extensions (credulously acceptable)
- An argument may be in no preferred extension (indefensible)
To allow for rational disagreement

- We must distinguish attack from defeat
- We can accept arguments which are attacked, AND their attackers, provided the attacks fail
- Dung’s framework is too abstract to allow such talk – we need to be able to discuss value as well as conflict
Value-based Argumentation Framework

A value-based argumentation framework (VAF) is a 5-tuple:

\[ VAF = \langle AR, \text{attacks}, V, \text{val}, P \rangle \]
Audiences

• Following Perelman we want to use the notion of an audience

• Audiences will have different preferences between values

• We individuate audiences by their ordering on values

• There are as many audiences as there are value orderings
Audience Specific VAF

An audience specific \( VAF(AVAF) \) is a 5-tuple:

\[
AVAF = \langle AR, attacks, V, val, Valpref_a \rangle
\]

- As for Standard AF
- Set of values
- Function Mapping Elements of AR To Elements of V
- Valpref\(_a\) is the value preferences of audience a
Defeat in AVAF

An argument $A \in AF$ defeats$_a$ an argument $B \in AF$ for audience $a$ if and only if both attacks($A, B$) and not valpref$_a$(val($B$),val($A$)).

Note: An argument is defeated by an attacker with the same value

Defeat is always relative to an audience

If there is only one value in $V$ we have a standard argumentation framework
Definitions for AVAF

• An argument $A \in AR$ is acceptable to audience $a$ with respect to set of arguments $S$, if:
  $$(\forall x)(((x \in AR \& \text{defeats}_a(x,A)) \rightarrow (\exists y)(((y \in S) \& \text{defeats}_a(y,x)))).$$

• A set $S$ of arguments is conflict-free for audience $a$ if
  $$(\forall x)(\forall y)(((x \in S \& y \in S) \rightarrow \neg \text{attacks}(x,y) \lor \text{valpref}(\text{val}(y),\text{val}(x) \in \text{valpref}_a))).$$

• A conflict-free set of arguments $S$ is admissible for audience $a$ if
  $$(\forall x)(x \in S \rightarrow \text{acceptable}_a(x,S)).$$
Preferred Extension of an AVAF

- A set of arguments $S$ in an value-based argumentation framework is a preferred extension for audience $a$ if it is a maximal (with respect to set inclusion) admissible for audience $a$ set of $AR$. 
Relation between AVAF and AF

• Given an AVAF, $\text{vaf}_a < \text{AR}, \text{attacks}, \text{V}, \text{val}, \text{Valpref}_a >$ there is an AF, $\text{af}_a < \text{AR}, \text{defeats} >$ such that an element of attacks, $\text{attacks}(x,y)$ is an element of defeats if and only if $\text{defeats}_a(x,y)$

• The preferred extension of $\text{af}_a$ will be the same as the preferred for audience $a$ extension of AVAF

• If $\text{vaf}_a$ doesn't contain single valued cycles, neither will $\text{af}_a$, and hence both will have a unique non-empty preferred extension.
AF for audience with $B > R > G$

Preferred Extension contains the marked arguments
Values and Preferred Extensions

Given an order on values,
A value based argumentation framework with no single valued cycles,
Has a unique, non-empty preferred extension

Any dispute can be resolved by ordering the values
Objective Acceptance

- An argument is objectively acceptable if it is in the preferred extension for every audience.
- An argument is subjectively acceptable if it is in the preferred extension for some audience.
- An argument is indefensible if it is no preferred extension of any audience.
Values Break Cycles

• If a cycle contains at least two values, at some point an attack will fail
• This means that such VAFs have a unique, non-empty preferred extension
• Moreover, in many cases, there will objectively acceptable arguments
Two Valued Odd Cycle

If blue > red, preferred extension is \{a,b\}

If red > blue, preferred extension is \{b,c\}

Note: b is in the preferred extension whatever the value order
Two Valued Even Cycle
Alternating Colours

If blue > red, preferred extension is \{b,d\}
If red > blue, preferred extension is \{a,c\}

Preferred extension is unique, but depends on value order
Two Valued Even Cycle
Unbalanced Colours

If blue > red, preferred extension is \{b, d\}

If red > blue, preferred extension is \{a, c\}

Preferred extension is unique, but depends on value order
Two Valued Even Cycle
Connected Colours

If blue > red, preferred extension is \{a, c\}

If red > blue, preferred extension is \{a, c\}

Preferred extension is unique, AND independent of value order
Argument Chains

- An argument chain in a VAF, $C$, is a set of $n$ arguments $\{a_1 \ldots a_n\}$ such that:
  - $(\forall a) (\forall b) (a \in C \& b \in C) \rightarrow \text{val}(a) = \text{val}(b)$;
  - $a_1$ has no attacker in $C$;
  - For all $a_i \in C$ if $i > 1$, then $a_i$ is attacked and the sole attacker of $a_i$ is $a_{i-1}$.

- If the first argument is accepted, all odd numbered arguments are accepted;
- If the first argument is rejected, all even numbered arguments are accepted.
Two Valued Odd Cycles

• A two valued odd cycle comprises
  - An odd number of odd chains
  - At least one even chain
• The odd numbered arguments of any chain attacked by an even chain will be objectively acceptable
• The even numbered arguments of any chain attacked by an even chain will be indefensible
Why is \( A \) objectively acceptable?

- Undefeated if \( \text{Red} > \text{blue} \)
- Undefeated if \( E \) is defeated
- Defeated if \( D \) is defeated
- Undefeated if \( \text{blue} > \text{red} \) \{b,d,a\}
- Undefeated if \( \text{red} > \text{blue} \) \{a,c,e\}
Two Valued Even Cycles

- A two valued even cycle comprises
  1. An even number of odd chains; \textit{OR}
  2. Any number of even chains; \textit{OR}
  3. An even number of odd chains and any number of even chains

- Preferred extensions are:
  1. The odd numbered arguments of the chains with the preferred value, and the even numbered arguments of the other chains
  2. The odd numbered arguments from each chain
  3. The odd numbered argument of all chains attacked by even chains + some others
Two Valued Cycles

- The preferred extension comprises
  - Odd numbered arguments of chains attacked by even chains
  - Odd numbered arguments of chains with the preferred value
  - Even numbered arguments of other chains

We can provide similar analyses for cycles with k-values
Example Set of Cases

• Pierson: Plaintiff is hunting a fox on open land. Defendant kills the fox.

• Keeble: Plaintiff is a professional hunter. Lures ducks to his pond. Defendant scares the ducks away.

• Young: Plaintiff is a professional fisherman. Spreads his nets. Defendant gets inside the nets and catches the fish.
Argumentation Framework for Animals Cases

Analysis taken from Bench-Capon 2002 Jurix 2002
Pierson

A: Pierson Had A Right To the Animal
B: Pierson had No possession
E: Pierson was in full pursuit
I: Pursuit not Enough
O: Seizure not necessary (we want to encourage socially useful activity)

M and O form a 2-cycle: resolved by Value

So A is Subjectively acceptable

Blue: Need clear law
Orange: Encourage useful activity

M: we must insist on possession for clear law
Green: Protect property rights

Keeble I

C: owns the land so possesses the animals

D: Animals not confined

X: Unbranded animals belong to landowner.

Not needed:
Useless if blue greater than green
Unnecessary else
Red: Promote economic activity

Keeble II

F: Keeble was pursuing his livelihood
Purple: Restrictive view of role of courts

Young

U breaks the even cycle BTSEB

Without U B is defeated by its position in the even cycle

S: Defendant in Competition
T: Competition was Unfair

Note: 4 cycle BTSEB TE objectively acceptable

U: Not for the Court to rule on what is unfair competition
The Following Picture Emerges

- Partial order on values

Note: this makes Young subjective: depends on view of court’s role.
Implications for Dialogues

• Values can
  - Curtail futile lines of argument
  - Guide choice of attacking arguments
  - Make attackers available
  - Make cycles useful
Dialogue on Dung's Framework

Lengthy Chain

A

claim

Not available after A is played

Which attacker to use?
Dialogue With Values

Chain stops here

A

claim

Available even after A is played

B is best

C is next best

B

C
How to defend A

Useless: cannot change the status of A

Makes A subjectively acceptable for Green > Blue

Makes A objectively acceptable, unless B can be attacked
It is the Preferences of the Audience That Count

If I prefer Red to Blue, I will not accept C.

But I can still use it to defeat an attack made with B.

This is a significant difference from games on Dung’s framework and can establish A as objectively acceptable.
Where do Value Orders Come From?

- Traditions of the legal system
- Social Factors
- Ideology
Traditions

- Narrow \textit{versus} Broad Interpretation
- Hierarchical \textit{versus} co-ordinate officials
- Reactive \textit{versus} active state
- Common good \textit{versus} Individual Goods
- Generality \textit{versus} the Particular
- Discretion \textit{versus} Consistency
- Rights \textit{versus} Privileges
Social Customs

• Role of women
• Normal working week
• What items are normal:
  - Guns
  - cars
Ideology

• Left versus Right
• Secular versus Theocratic
The Judge

- The judge is supposed to reflect the values currently prevailing
- This allows movement in value preferences as times change
- But usually lags behind - supporting stability and continuity
  - cf composition of Supreme Court
Values Explain

• Differences across jurisdictions
  - E.g. English law favours the particular, continental law the general

• Differences across time
  - E.g. Discretion of the judge changes
  - Social factors, such as women’s rights

• Differences between parties
Summary

• Law springs from disagreement
• Often the disagreement reflects a difference in basic values
  - Such disagreement is hard to resolve
• We can extend Dung’s argumentation framework to represent values
• This can sometimes establish objective acceptability
• This can explain preferences and guide dialogue
• Value orders change, which helps to explain the evolution of case law
The Talk Is Finished

"That's all Folks!"

Cartoon Songs From

Merrie Melodies & Looney Tunes