

## PROPERTIES OF CYCLES (1)

**In a dichromatic three cycle  
the argument coloured differently from the other two will be objectively acceptable.**

**An argument chain in a VAF,  $C$  is a set of  $n$  arguments  $\{a_1 \dots a_n\}$  such that:**

- i.  $(\forall a) (\forall b)(a \in C \ \& \ b \in C) \rightarrow \text{val}(a) = \text{val}(b)$ ;**
- ii.  $a_1$  has no attacker in  $C$ ;**
- iii. For all  $a_i \in C$  if  $i > 1$ ,  
then  $a_i$  is attacked and  
the sole attacker of  $a_i$  is  $a_{i-1}$ .**

**In any dichromatic cycle,  
the odd numbered arguments of any chain preceded  
by an even chain will be objectively acceptable.**

**The preferred extension of a dichromatic cycle comprises:**

- (i) the odd numbered arguments of all chains preceded by an even chain;**
- (ii) the odd numbered arguments of chains with the preferred value;**
- (iii) the even numbered arguments of all other chains.**

## PROPERTIES OF CYCLES (2)

**In a dichromatic VAF:**

**i. an argument is indefensible**

**if it an even numbered member of any chain preceded only by even chains;  
or if it an even numbered member of a chain attacked by an odd chain, and  
is directly attacked by an odd chain;**

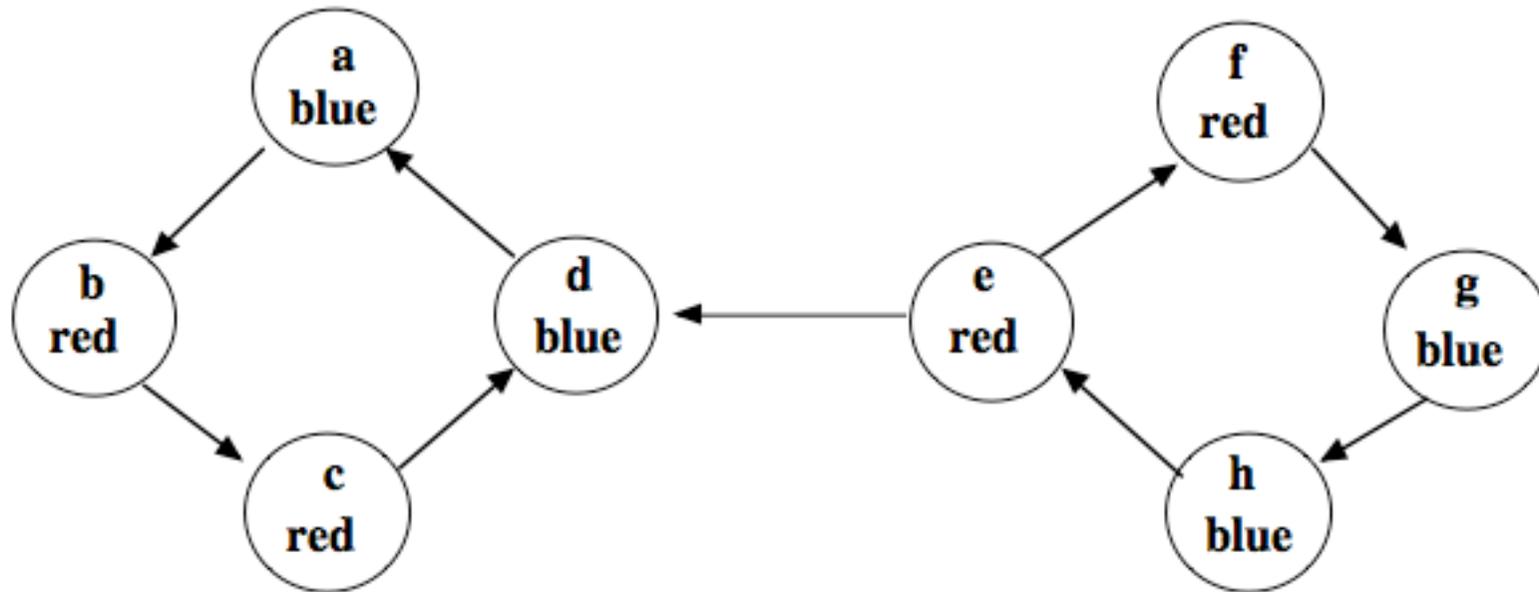
**ii. an argument is objectively acceptable**

**if it is only an odd numbered argument of a chain  
preceded only by even chains;**

**iii. an argument is subjectively acceptable otherwise.**

**An unattacked argument is considered to be preceded  
by a chain of length zero, hence an even chain.**

## AN EXAMPLE (1)



**Now the blue argument d is the successor not only of the chain bc,  
but also of the one argument chain e.  
(Argument e is part of two chains, e and ef).**

## AN EXAMPLE (2)

**There will be two preferred extensions,  
according to whether  $\text{red} > \text{blue}$ , or  $\text{blue} > \text{red}$ .**

**If  $\text{red} > \text{blue}$ , the preferred extension will be  $\{e,g,a,b\}$ , and if  $\text{blue} > \text{red}$ ,  $\{e,g,d,b\}$ .**

**Now  $e$  and  $g$  and  $b$  are objectively acceptable,**

**but  $d$ , which would have been objectively acceptable if  $e$  had not attacked  $d$ ,  
is only subjectively acceptable, and**

**$a$ , which is indefensible if  $d$  is not attacked, is also subjectively acceptable**

**Arguments  $c$  and  $h$  remains indefensible.**

**So, to be objectively acceptable,**

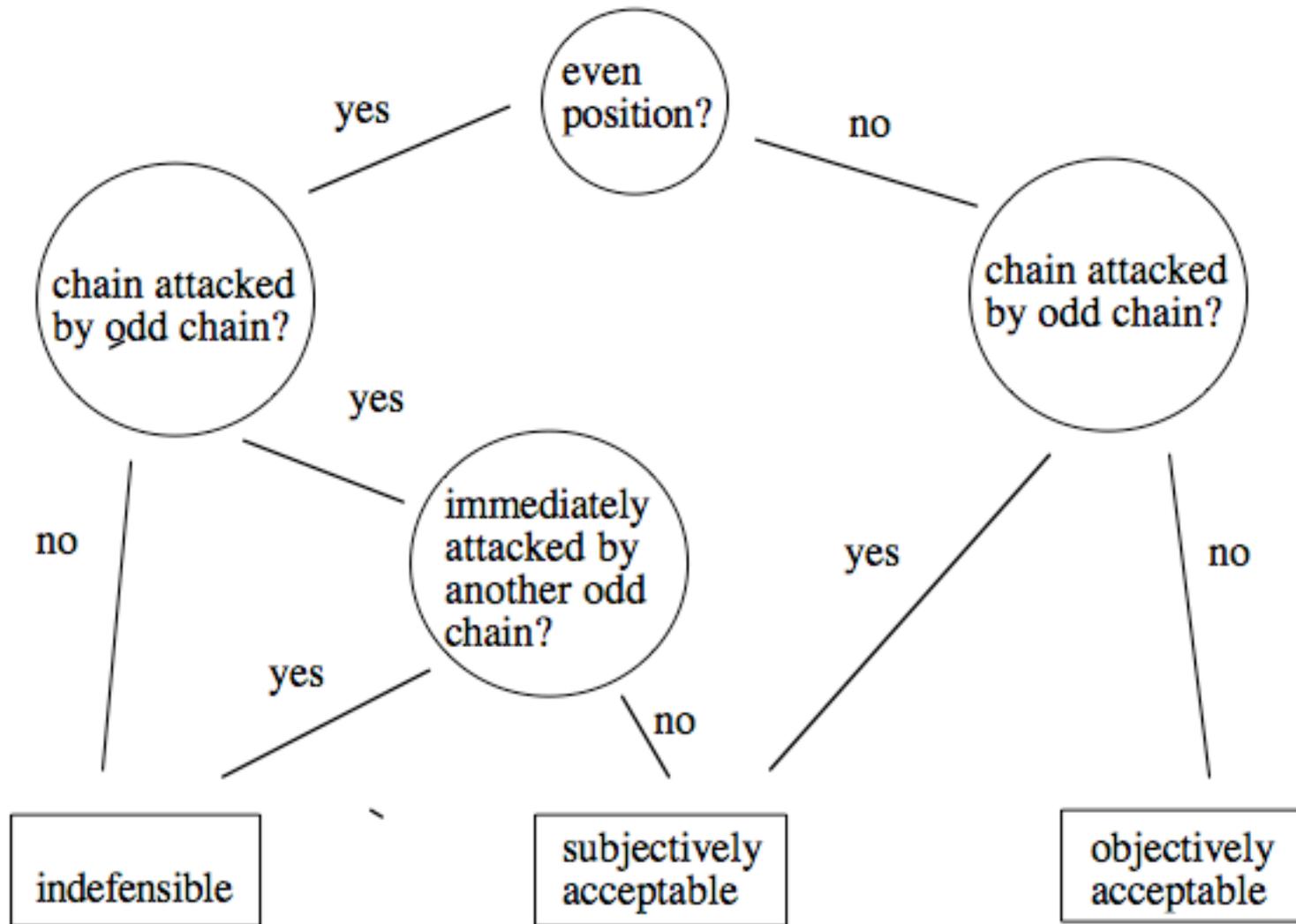
**an argument must be an odd numbered member of a chain preceded *only*  
by even chains.**

**Suppose that instead of  $e$  attacking  $d$ ,  $h$  attacked  $d$ .**

**In this case  $d$  would be part of the even chain  $ghdb$ , preceded by the even chain  $ef$ .**

**Now  $\{egdb\}$  is the only preferred extension, whatever the value ordering,  
since all chains are preceded only by even chains.**

# DECISION PROCESS FOR STATUS OF AN ARGUMENT



## AN EXAMPLE WITH CONFLICTS (1)

### *The basic situation*

**Hal, a diabetic, loses his insulin in an accident through no fault of his own. Before collapsing into a coma he rushes to the house of Carla, another diabetic. She is not at home, but Hal enters her house and uses some of her insulin. Was Hal justified, and does Carla have a right to compensation?**

**The first argument (*a*) is based on the value that life is important (V1), the second (*b*) on the value that property owners should be able to enjoy their property (V2). By valuing life over property we can accept both arguments.**

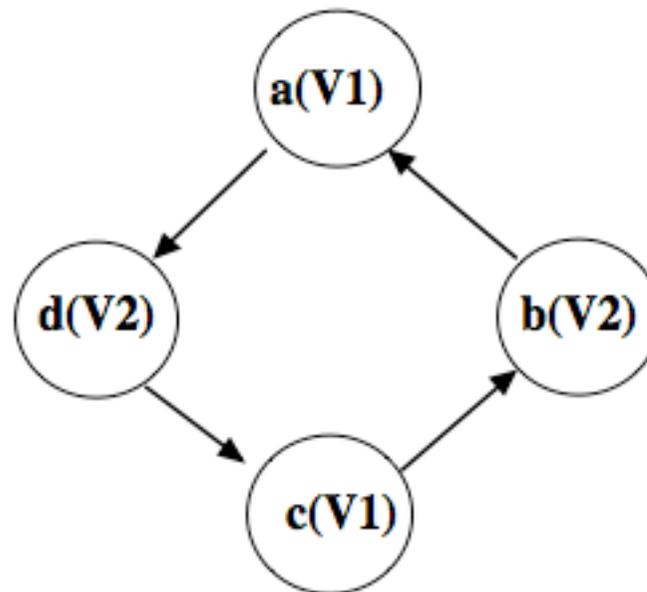
**But now we may add a third argument, (*c*) attacking (*b*). This says that even if Hal were too poor to compensate Carla, then he should still be able to take the insulin: no one should die through their poverty.**

**This in turn could be attacked by argument (*d*) which is based on the fact that starvation is not a recognised defence against theft, even of food.**

**This argument is itself attacked by (*a*), so we have a four cycle with alternating values.**

## AN EXAMPLE WITH CONFLICTS (2)

*The basic cycle*



**Either we can value human life over property, in which case we reject (*b*) and (*d*), and do not oblige Hal to compensate Carla, or we reverse our preference and have Hal in default if he cannot pay the compensation.**

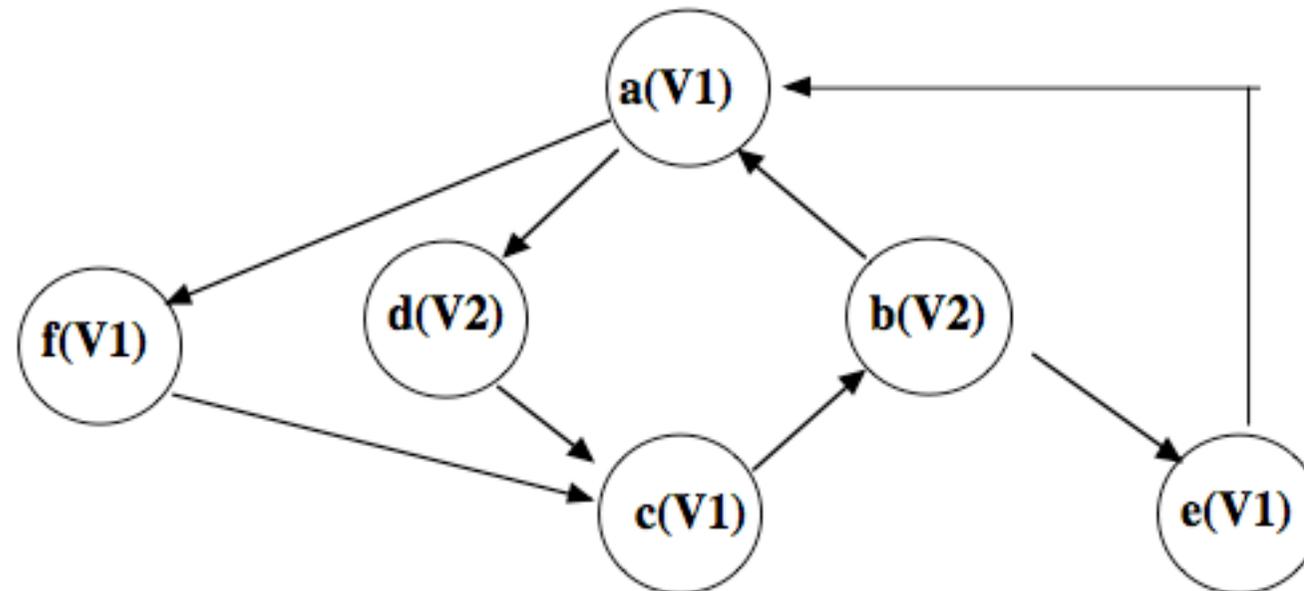
## AN EXAMPLE WITH CONFLICTS - 1. EXTENSION (1)

**Instead of using argument (b) we attack (a) with an argument (e)  
to the effect that Hal is endangering Carla's life by consuming her insulin.  
On her return she may be in need of the insulin which is no longer available.  
Here both (e) and (a) are based on the same value, so (e) defeats (a).  
The threat to Carla can be removed by Hal replacing the insulin,  
so we can attack (e) by an argument that Hal should replace the insulin,  
effectively argument (b) above.**

**Suppose we use a life based argument, (f) to the effect that  
no one should preserve their own life at the cost of endangering another's.  
This argument is attacked by (a)  
which held that one may do anything to preserve one's own life.**

**In the five cycle,  
we have objectively to accept the property based argument, and  
conclude that Hal is not justified in taking the insulin without compensation.**

## AN EXAMPLE WITH CONFLICTS - 1. EXTENSION (2)



**Suppose V1 (life) is preferred to V2 (property).**

**Now (e) is in the preferred extension**

**because it is attacked only by (b) which has the inferior value.**

**So (a) is out, because attacked by (e), so (f) and (d) are in, because attacked only by (a).**

**Now (c) is defeated by (f), and (b), attacked only by (c), is in.**

**Thus, given  $V1 > V2$ , the rational position is  $\{e, f, d, b\}$ .**

## AN EXAMPLE WITH CONFLICTS - 1. EXTENSION (3)

**Now suppose  $V2 > V1$ :**

**now  $(b)$  is in, because it is only attacked by the lower ranked  $(c)$ .**

**Therefore  $(a)$  and  $(e)$  are defeated by  $(b)$ .**

**With  $(a)$  out,  $(f)$  and  $(d)$  are in and  $(f)$  defeats  $(c)$ .**

**So, for  $V2 > V1$ , the rational position is  $\{b,f,d\}$ .**

**Thus  $(b)$ ,  $(f)$  and  $(d)$  are objectively acceptable, and**

**$(e)$  is subjectively acceptable, if we value life over property.**

**No one should preserve their own life at the cost of endangering another's.**

**This argument is attacked by  $(a)$**

**which held that one may do anything to preserve one's own life.**

**The conclusion is that Hal can take the insulin**

**only if he replaces it before Carla needs it, hence only if he is able to replace it.**

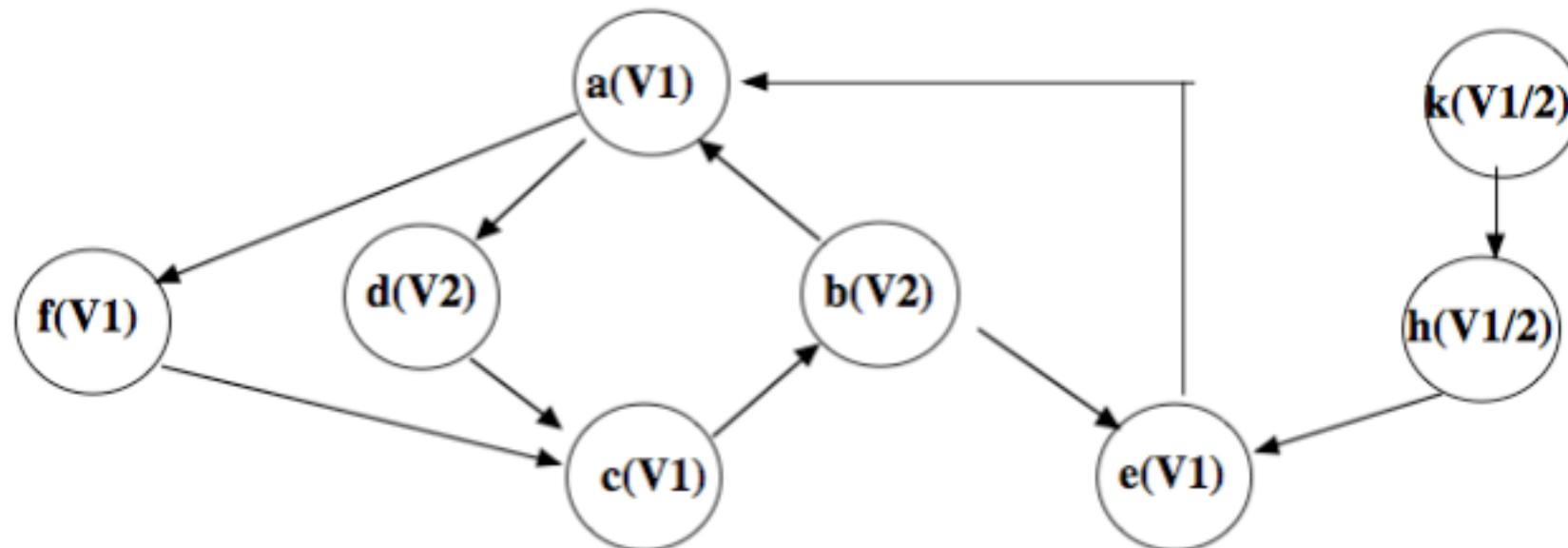
**Note that  $(a)$  and  $(c)$  are indefensible**

## AN EXAMPLE WITH CONFLICTS - 2. EXTENSION (1)

Now suppose Carla is a nurse.

Suppose we attack (*a*) by an argument (*g*) saying that  
the life of some other diabetic is endangered,  
since they may rely on Carla being in a position to supply them with insulin.

We may attack this by a factual argument (*h*) to the effect that  
Carla is well stocked with insulin and will be able to meet any foreseeable demand.



## AN EXAMPLE WITH CONFLICTS - 2. EXTENSION (2)

**But we may again argue (k) that Hal cannot possibly know that this so:**

**Carla may have allowed her stocks to run down.**

**Suppose here we allow it to take V1, since that will ensure that it always defeats (g).**

**Now (k) is undefeated since it is a source. (h) is therefore defeated by (k).**

**(a) will be defeated by (b) if  $V2 > V1$  and by (g) if  $V1 > V2$ .**

**Thus (f) and (d) are undefeated, and (c) is defeated by (f), leaving (b) undefeated.**

**Thus all of (k), (b), (f) and (d) are objectively acceptable, and**

**(g) is acceptable provided that  $V1 > V2$ .**

**(a) and (c) are indefensible. This seems to be a reasonable resolution of the dispute:**

**that the principle of necessity, that one may do anything to preserve one's own life, does not license endangering the lives of others.**

**No attack on a successor argument, or any more remote argument need be considered.**

**To change the position of an argument within a chain we can either extend the chain**

**(with an argument of the same colour), if the chain is unattacked; or attack some**

**preceding odd numbered argument in the chain (with an argument of either colour).**

**To make an argument part of an additional chain we must attack that argument**