©SMIC WORKSHOP #7, 97.05.29

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PROPOSED PROTOCOLS, 1

SHOULD EACH KEYSTROKE GO TO BACK END? (Would help Emacs?) 3

SHOULD OPLISTS BE POOLED, OR SEPARATE FOR EACH DOCUMENT? 4

↓ THE PROBLEM OF RECURSIVE BACKTRACK TO REBUILD 5

Therefore save each transaction list 6

'Generalized rearrange' doesn't work 7
although 1-delimiter & 2-delimiter cases are unambiguous, 8.

Ken'ichi's proposed protocol.

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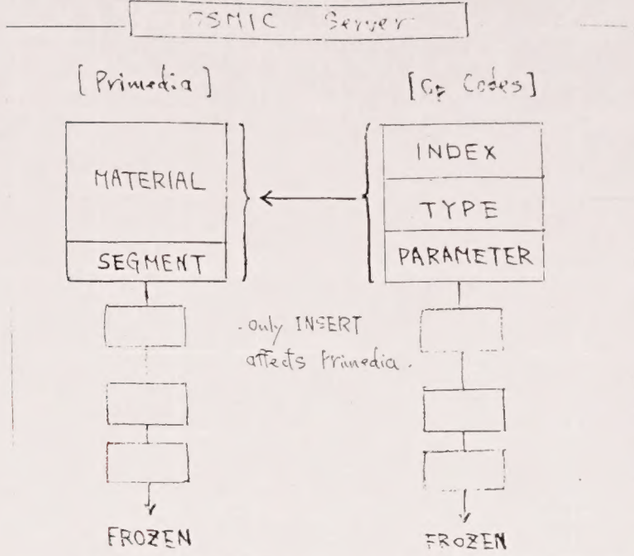
1

Need such protocol

※ Addresses in Primedia is client-server global.



INDEX = USERNAME | FILE NAME | Op NUM = Version NUM (→ "0" at first) | TIME

TYPE = · INSERT · DELETE · TRANSCLUDE · REARRANGE

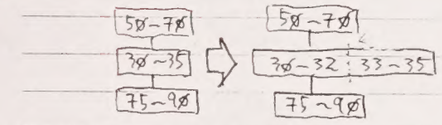
INSERT

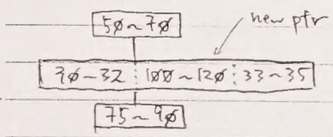
OVERVIEW

1. Select "INSERT"
2. Input string
3. String appears
4. Select "END"

DETAILS

1. Client sends "INSERT" signal to the server
2. Client sends the current cursor position (address) (ex. 32)
3. Client sends string to Primedia
4. Server makes a new pointer (ex. 100~120)
5. Server returns the new pointer to the client
6. Saved as a parameter of operation code with incrementing the version number.





pointer: Starting address in Primedia + length (end?)

INSERT
the cursor position (address) before operation
pointer appended

The client recognizes end of instruction and sends END code (allows definition of new instructions and new endgs)

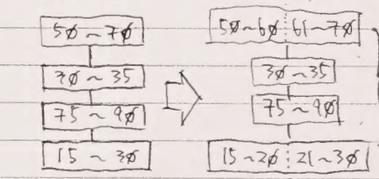
ALTERNATIVE METHOD (less efficient): increment or decrement pointer with each keystroke.

HOW WILL EMACS REFRESH ??

LETS DO IT CHARACTER-BY-CHARACTER AT FIRST, IN ORDER TO SIMPLIFY FRONT-END.

DELETE

1. Select "DELETE" → 1. Client sends "DELETE" signal to the server
2. Specify the start position → 2. Client sends the start address (ex. 61)
3. Specify the end position → 3. Client sends the end address (ex. 70)
4. Client sends the pointers between start - end (ex. 61~70 + 30~35 + 75~90 + 15~20)
5. Remove the start-end pointers in VV and send the new VV to the client (ex. 50~60 + 21~30)
6. Select "END" → 6. Saved as a parameter with incrementing the version number.



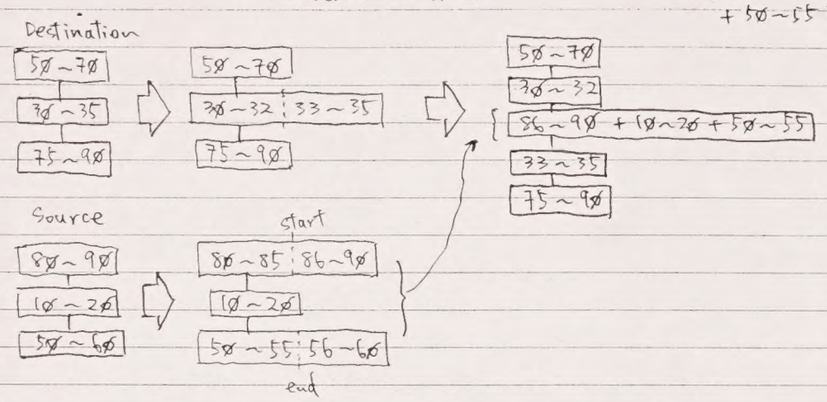
DELETE
the cursor address before operation
pointers discarded

TRANSCLUDE

1. Select "TRANSCLUDE" ⟶ 1. Client sends "TRANSCLUDE" signal

2. Specify the start position in the destination VV ⟶ 2. Client send the address (ex. 32)

3. Specify the start-end pointers in the source VV (Primedia or other VV) ⟶ 3. Pointers are inserted in the destination VV. (ex. 86~90 + 10~20 + 50~55)



4. Transcluded document appears ⟵ 4. Server sends a new VV list to the client

5. Select "END" ⟶ 5.

TRANSCLUDE
the cursor address before operation
pointers transcluded

saved in the same way

REARRANGE

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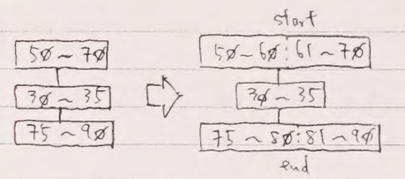
Each arrival delimiter probably splits a pointer.

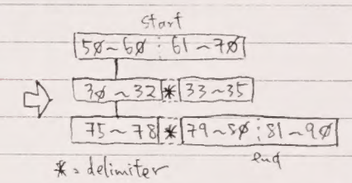
1. Select "REARRANGE" ⟶ 1. Client sends "REARRANGE" signal
Receive delimiter

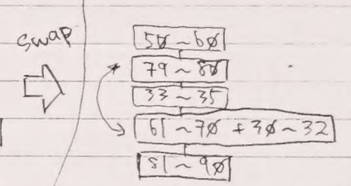
2. Specify the start address ⟶ 2. sends the address (ex. 61)

3. Specify the end address ⟶ 3. sends the address (ex. 90)

4. Specify the dilimeter number and address ⟶ 4 Swap the pointers splited







(swapped pointers depend on the number of the dilimeters.)
if (delimeter = 1)
1st pointer ⟷ 2nd pointer
if (delimeter = 2)
1st ⟷ 3rd
if (delimeter = 3)
1st ⟷ 4th 2nd ⟷ 3rd
...

5. Select "done"

6. Rearranged document appears ⟵ 5. Send a new VV to the client

7. Select "END" ⟶ 6.

REARRANGE
the start address
pointers before rearranged

saved in the same way

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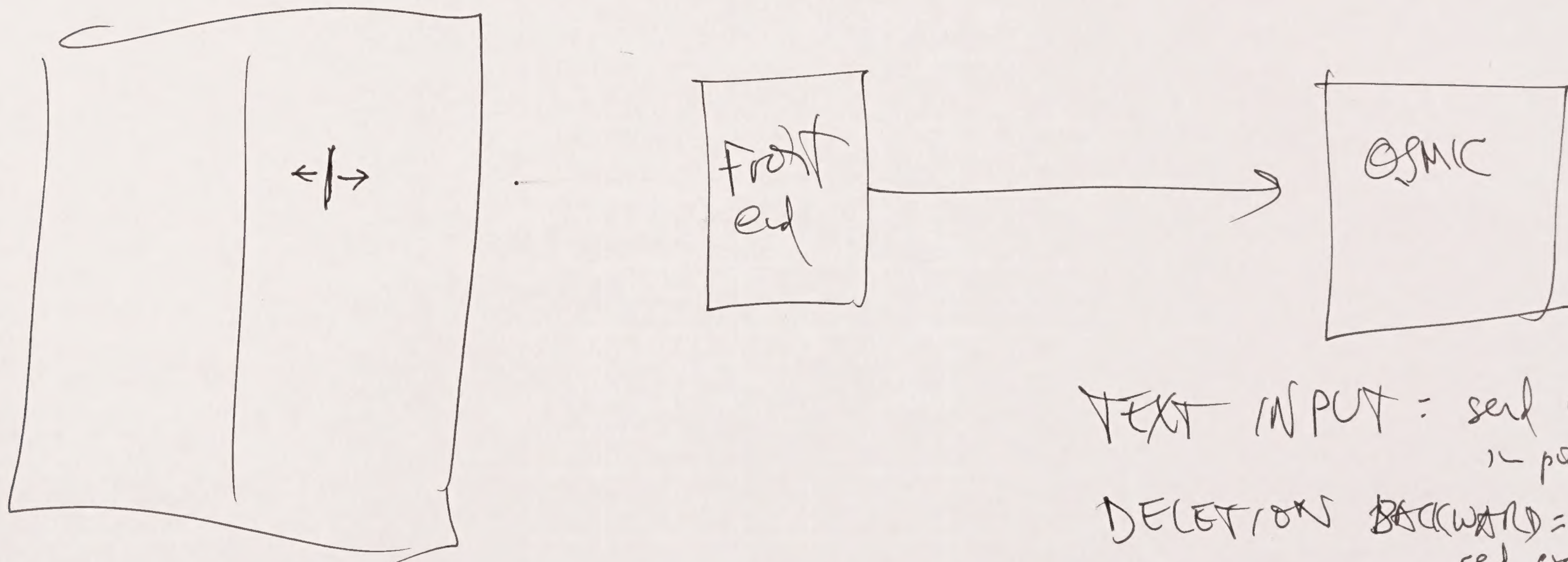
FOR REFRESH AT EMACS LEVEL,

it could be easier to send something ~~each~~ for each keystroke (in insert, delete & transcluding),



TEXT INPUT: send every input character

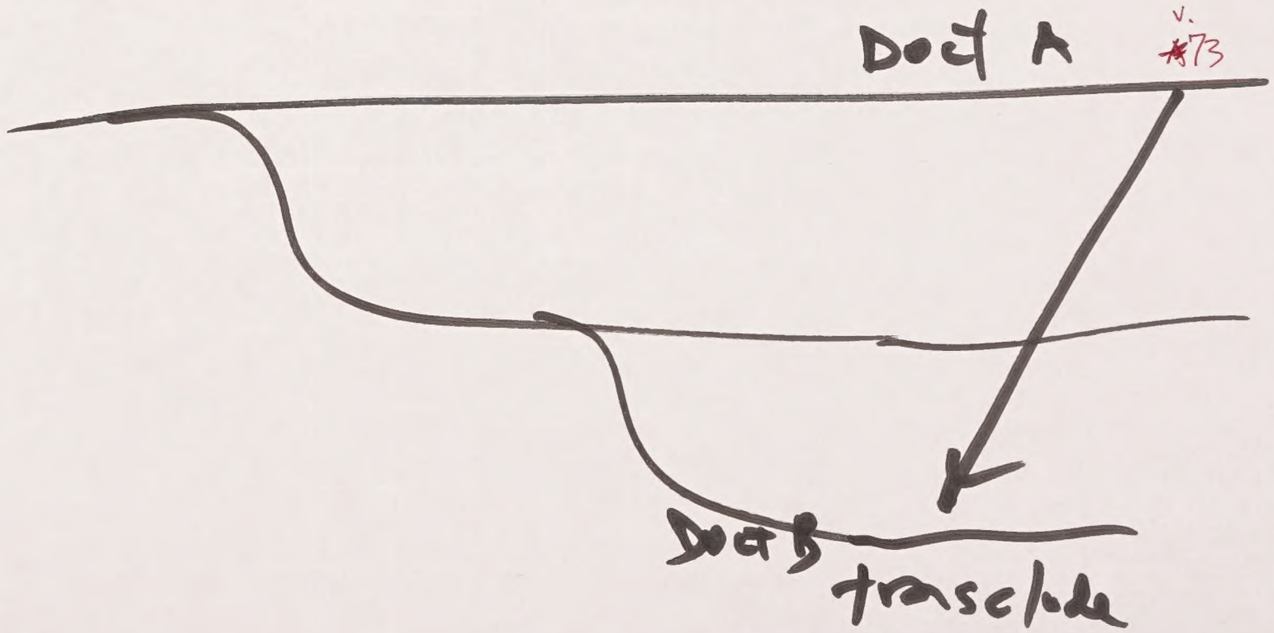
DELETION BACKWARD = send each backspace OR THE RESULT?

POOLED OPERATIONS versus SEPARATE OPLIST FOR EACH DOCT.

↕

Prob. best idea

But



If there's no virtual # version for 73 it has to REBUILD A in order to make B!

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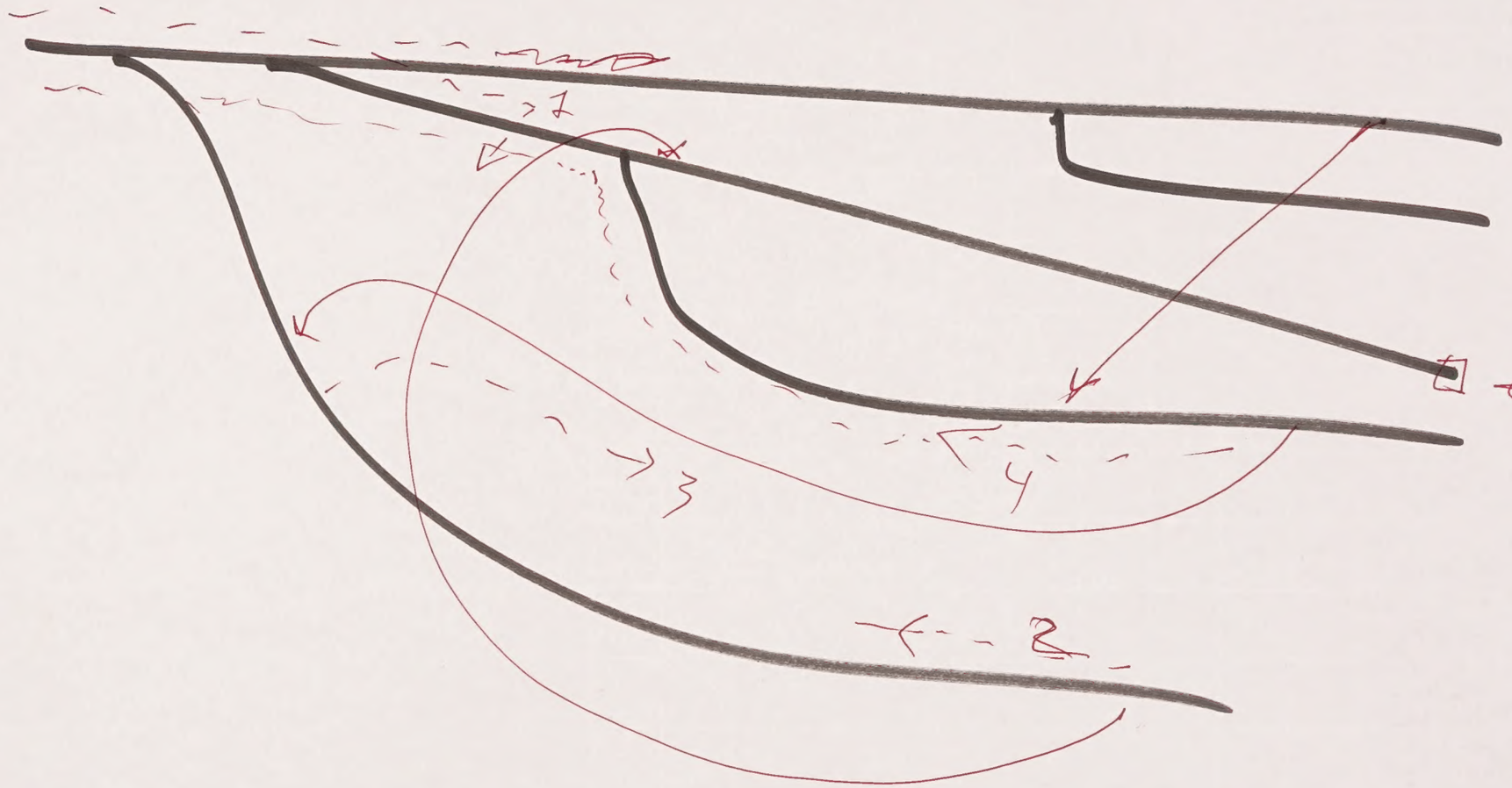


If you have to rebuild this you have to follow this whole series

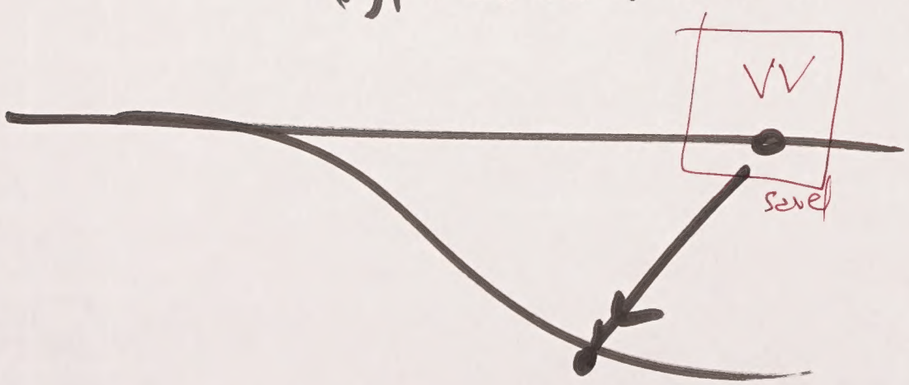
IF private pointers are not saved with Transclude operation

THEREFORE

A transclude operation should SAVE
with opcode
THE LIST WHICH IS TRANSCLUDED.

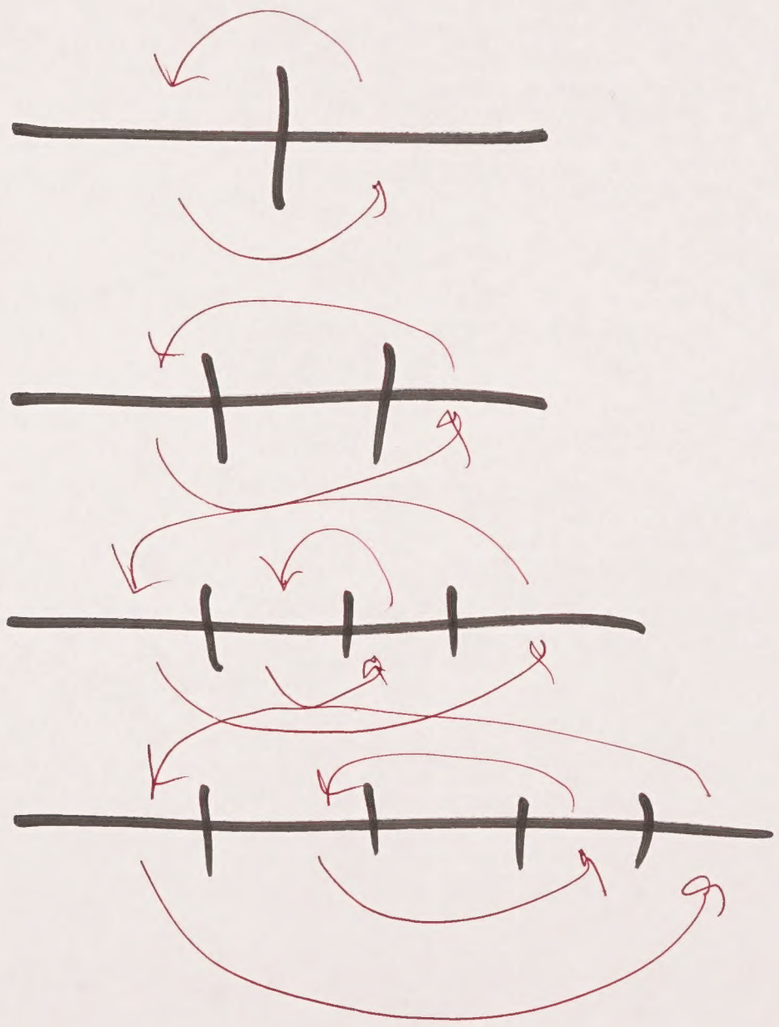
→ ALLOWING EVERY DOCUMENT
TO BE REBUILT INDEPENDENTLY.

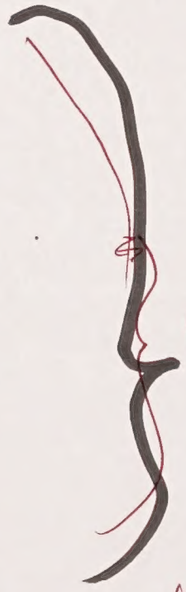
Alternative: save the VV
for every transclude origin
(about the equivalent in
space usage)



7

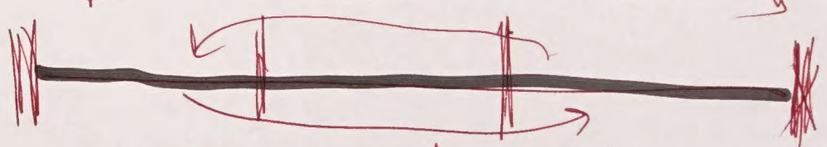
"Generalized rearrange" is incorrect.





User does not ordinarily want end sectors to rearrange.

Therefore, delimiters at ends



are needed to specify swap of outside pieces.

8

So you need it lesst 3 delimiters.

No: if you only have 1 or 2,
AND order is irrrogt,
IT's UNAMBIGUOUS.

Frequent type of operation.