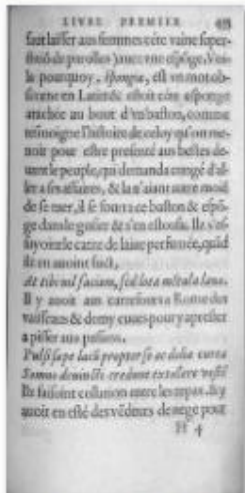


AGORA

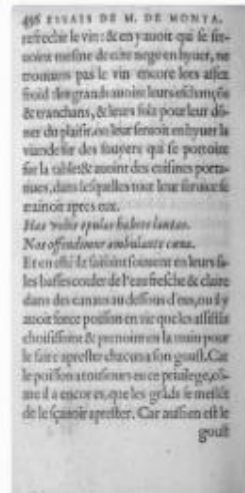
INITIATION 2

INTRODUCTION

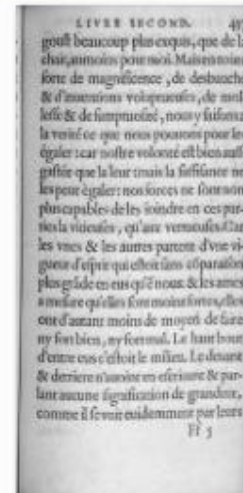
- ✖ Écriture d'un scénario simple d'extraction de texte pour un ouvrage entier
 - + Blocs
 - + Lignes
 - + Mots
 - + Caractères (avec accents, points)
- ✖ Ouvrage = 4 images provenant d'un livre de Montaigne



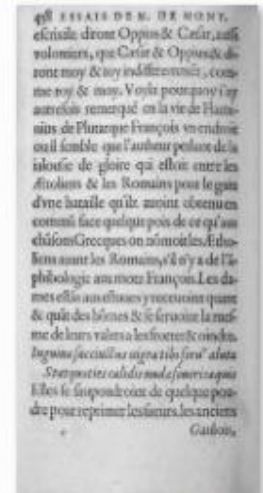
BRom_Montaigne1_0471.jpg



BRom_Montaigne1_0472.jpg



BRom_Montaigne1_0473.jpg

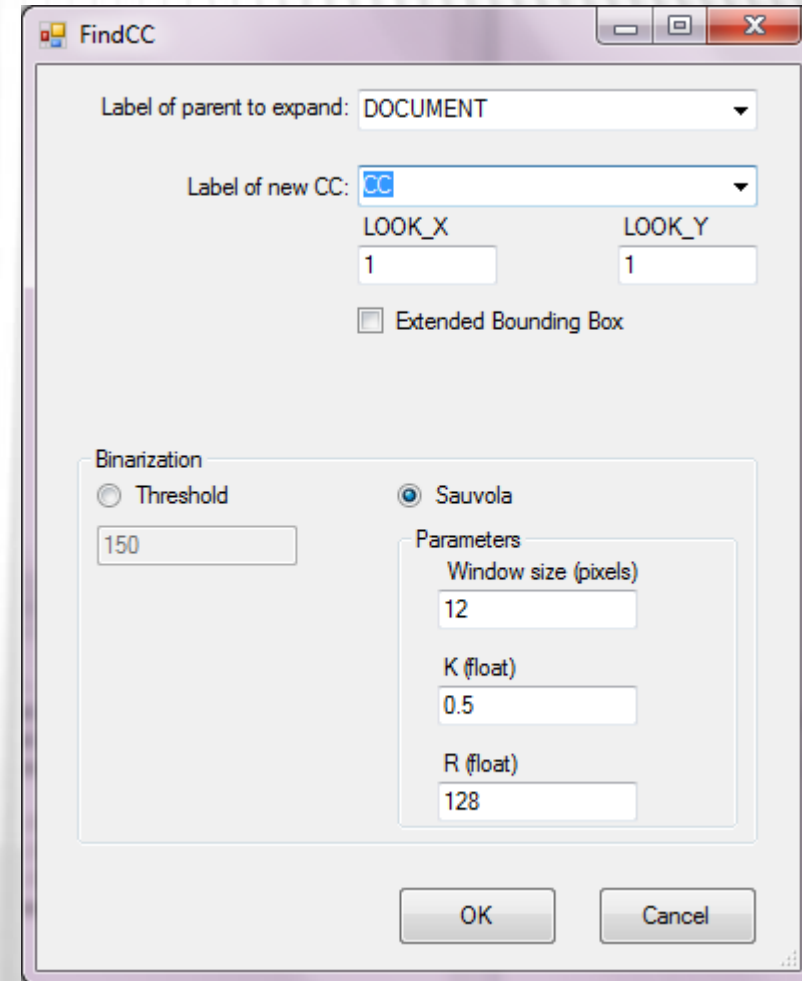


BRom_Montaigne1_0474.jpg

EXTRACTION DES COMPOSANTES CONNEXES...

EXTRACTION DES COMPOSANTES CONNEXES

- ✗ Création du label « CC »
- ✗ Extraction des composantes connexes
 - + Binarisation simple
 - ✗ Seuil = 150
 - + Binarisation de Sauvola
 - ✗ Possible mais lente pour des grandes pages (> 2 Mpixels)



EXTRACTION : RÉSULTAT

The image displays the results of an image extraction process. It includes a list of detected Connected Components (CC), a console log of the process steps, a summary table, and the original image with the extracted text highlighted in green.

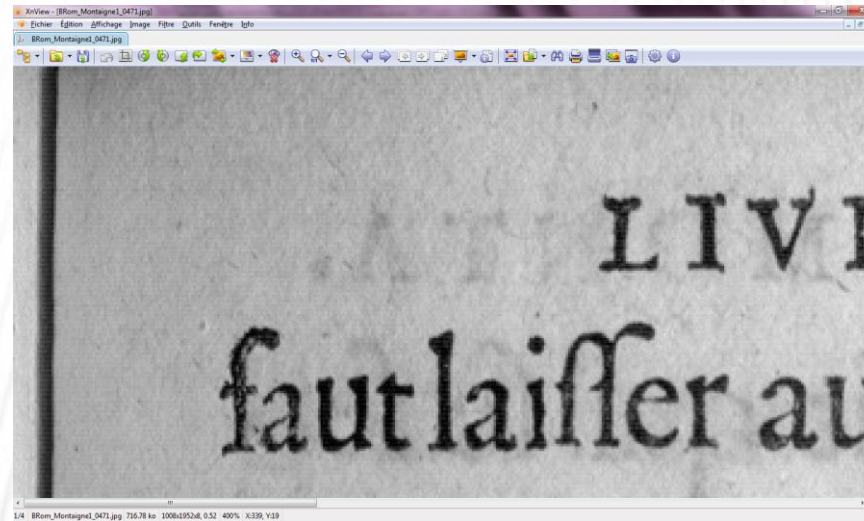
```
DOCUMENT(X=0,Y=0,Width=1008,Height=1952){w=1,[0,0,0,0,0,0,0,0]}
CC(X=0,Y=0,Width=20,Height=1524){w=1,[0,0,0,0,0,0,0,0]}
CC(X=21,Y=0,Width=1,Height=1){w=1,[21,0,0,0,0,0,0,0]}
CC(X=25,Y=0,Width=1,Height=1){w=1,[25,0,0,0,0,0,0,0]}
CC(X=30,Y=1,Width=1,Height=1){w=1,[30,0,1,0,0,0,0,0]}
CC(X=523,Y=52,Width=26,Height=32){w=1,[523,0,52,0,0,0]}
CC(X=280,Y=53,Width=17,Height=33){w=1,[280,0,53,0,1]}
CC(X=648,Y=53,Width=15,Height=32){w=1,[648,0,53,0,0]}
CC(X=712,Y=53,Width=28,Height=33){w=1,[712,0,53,0,0]}
CC(X=920,Y=53,Width=18,Height=48){w=1,[920,0,53,0,1]}
CC(X=345,Y=54,Width=27,Height=31){w=1,[345,0,54,0,0]}
CC(X=487,Y=53,Width=25,Height=32){w=1,[487,0,53,0,1]}
CC(X=599,Y=54,Width=33,Height=30){w=1,[599,0,54,0,0]}
CC(X=938,Y=54,Width=19,Height=48){w=1,[938,0,54,0,0]}
CC(X=306,Y=50,Width=28,Height=35){w=1,[306,0,50,0,0]}
CC(X=889,Y=56,Width=31,Height=48){w=1,[889,0,56,0,0]}
CC(X=954,Y=60,Width=2,Height=6){w=1,[954,0,60,0,0,0]}
CC(X=578,Y=63,Width=6,Height=11){w=1,[578,0,63,0,0,0]}
CC(X=898,Y=64,Width=2,Height=1){w=1,[898,0,64,0,0,0,1]}
CC(X=395,Y=66,Width=8,Height=7){w=1,[395,0,66,0,0,0,1]}
CC(X=823,Y=68,Width=1,Height=1){w=1,[823,0,68,0,0,1,1]}
```

Normalisation OK.
Compute map image for cache storing OK.
Garbage collect to free huge temporary memory...
Garbage collect OK.
CDimensionRangeMap: OK.
Background thread done.
CCreateLabel: Create Label CC...
CCreateLabel: OK.
Background thread started...
CFindCC: Find CC...
CFindCC: Expand...
Grayscale...
Grayscale OK.
Sauvola Filter...
Sauvola OK.
Invert...
Invert OK.
Detect CC...
Detect CC OK.
Adding 1164 CC to graph...
Adding CC OK.
CFindCC: OK.
Results = 1
CFindCC: OK.
Background thread done.

Label	Count
NONAME	
DOCUMENT	
CC	

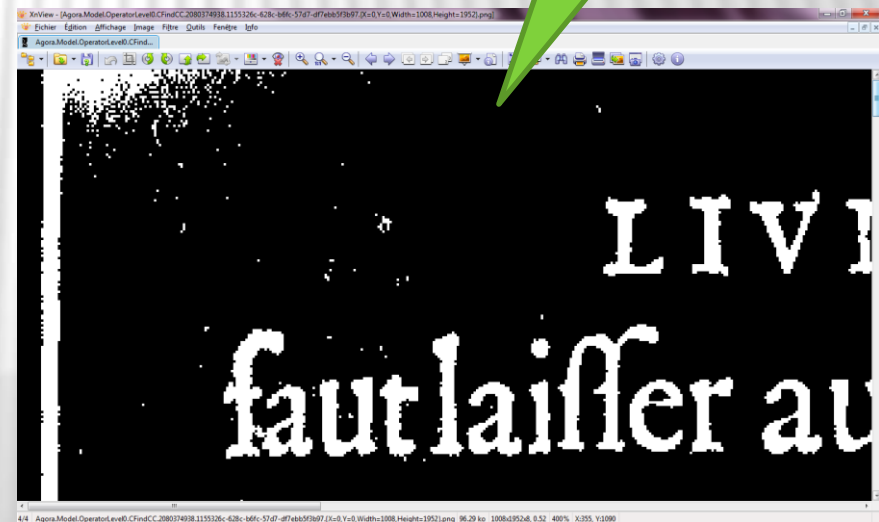
Le Livre premier
fut laiter aux femmes cete vaine super-
fluité de paroles Jace une espèg. Mo-
la pourquoy. *Spangia*, est un mot ob-
scur en Latin: & estoit cete espèg
attachée au bout d'un baston, comme
refumoigne l'histoire de celui qu'on me-
noit pour estre présenté aux bastes de-
vant le peuple, qui demanda congé d'al-
ler a ses affaires, & la n'ayant autre moïé
de se lever, il se trouva ce baston & espè-
ge dans la gorge & s'en estoit. Ilz s'ef-
fuyent le canze de laine parfumée, qu'ilz
en avoient fait,

CONTRÔLE VISUEL DE LA BINARISATION : « _CACHE »



Sauvola

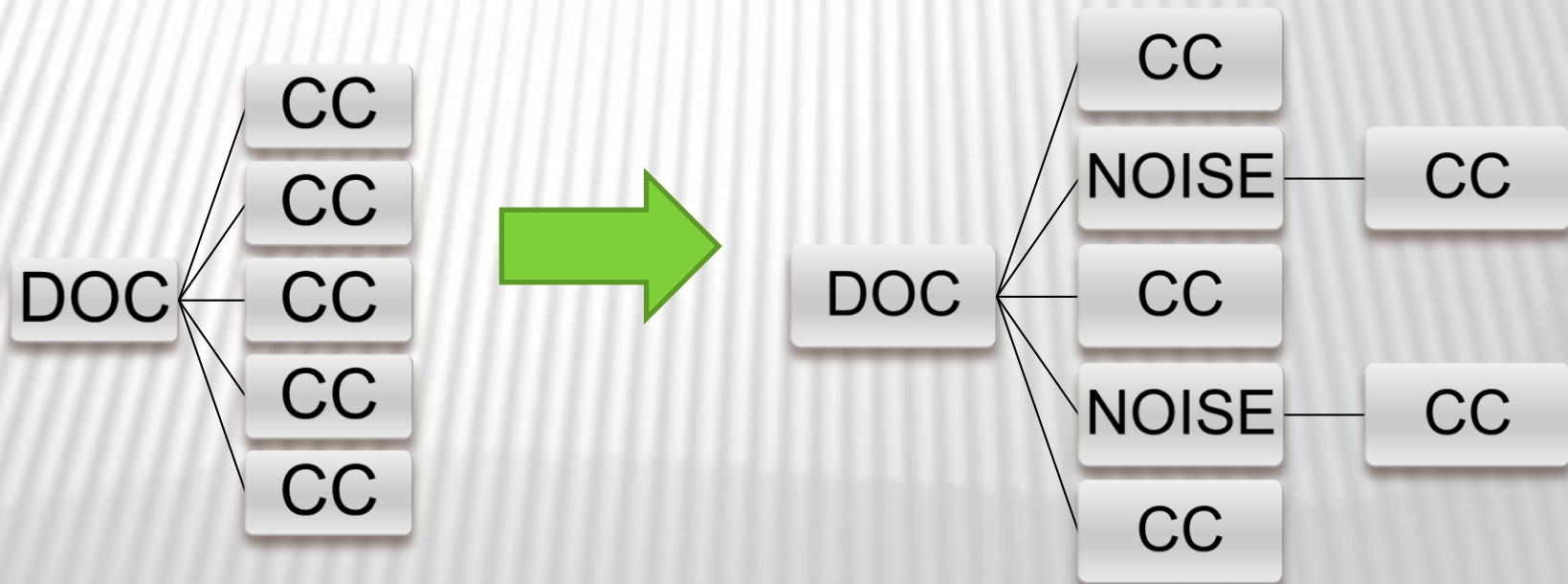
Seuil



ÉLIMINATION DU BRUIT...

ELIMINATION DU BRUIT

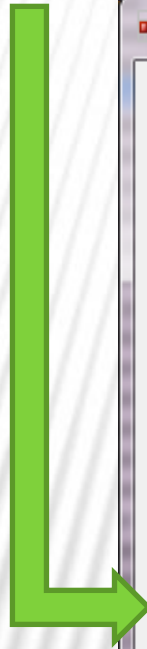
- × Bruit = composantes connexes très petites
 - + Création d'un label « NOISE »
 - + Classification des EOC « CC » en EOC « NOISE »
 - × Classification selon la taille
 - + Suppression des EOC « NOISE »



CLASSIFICATION PAR TAILLE : « PATTERN »

DOC

CC



Classify By Features

Classify By...
 Position
 Size
 Form

Label of parent: DOCUMENT
Label of new EOC: NOISE
Label of child: CC

Replace child

Features of child:

	a0	b0
▶ EUCLIDIAN_X	0	3
EUCLIDIAN_Y	0	3
RANGEMAP_X	0	0
RANGEMAP_Y	0	0
CHILDS_NUMBER	0	0

Coefficients:

0
1
1
0
0
0

Comparators:

Ch0
...
...
+Infini
+Infini
+Infini

Add Del

Reset
OK
Cancel

EOC (A1,B1) < PATTERN (A0,B0)

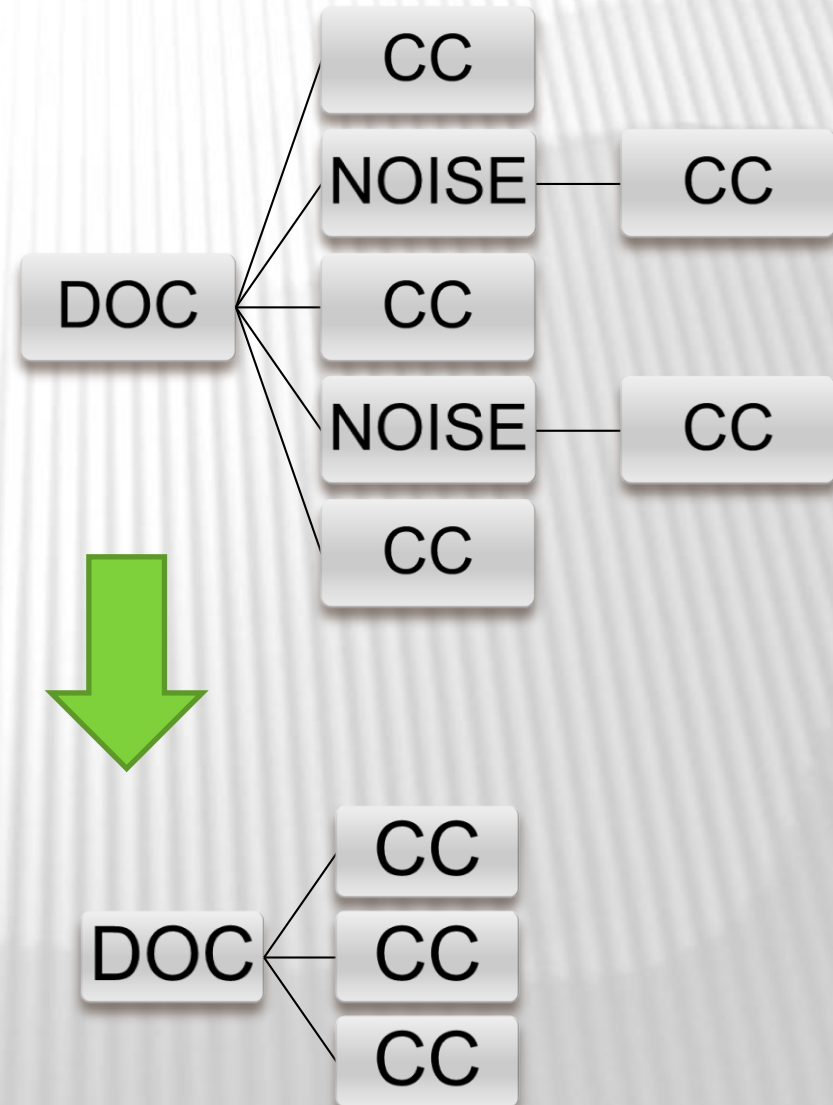
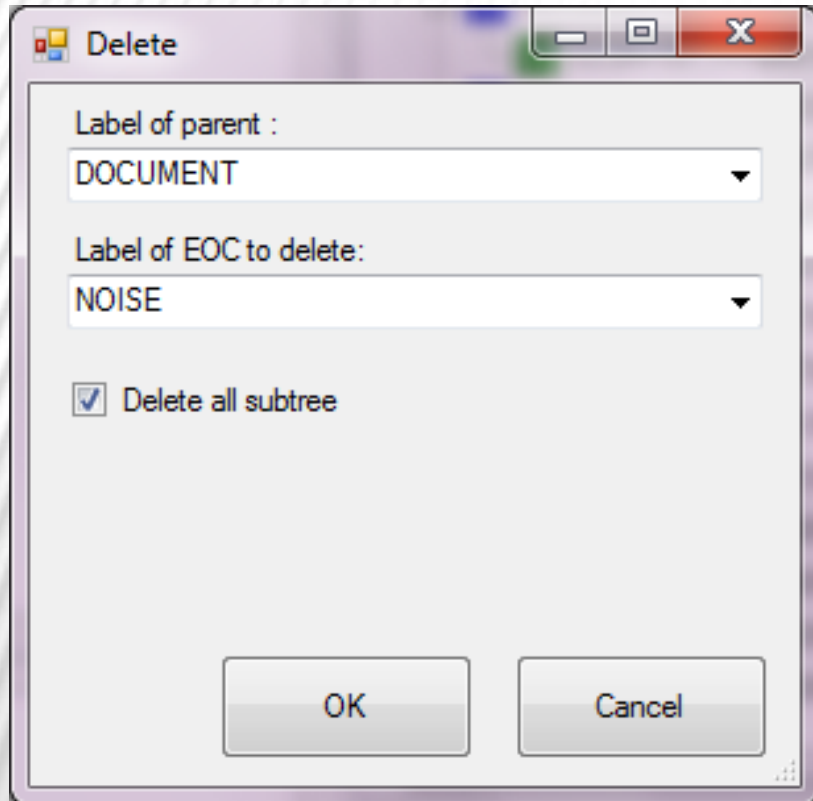
The screenshot shows the 'FeatureMatrixComparator' application window. The main title is 'EUCLIDIAN_X'. The central diagram, titled 'Graph's EOC Feature', shows two horizontal axes. The top axis has points 'a1' and 'b1', and the bottom axis has points 'a0' and 'b0'. A thick black line connects 'a1' to 'b1' on the top axis, and another thick black line connects 'a0' to 'b0' on the bottom axis. Colored arrows indicate relationships: a red arrow points up from 'a0' to 'a1', a blue arrow points down from 'a1' to 'b0', a green arrow points up from 'a0' to 'b1', and a yellow arrow points up from 'b0' to 'b1'. Below the diagram is the label 'Pattern's or Graph's EOC Feature'. To the left of the diagram is a red control box for 'a0 - a1' with 'Max: -Infini' and a checked 'Signed' checkbox. A green callout bubble points to this box with the text 'a1 > a0'. To the right is an orange control box for 'b0 - b1' with 'Max: +Infini' and a checked 'Signed' checkbox. A green callout bubble points to this box with the text 'b1 < b0'. At the bottom left is a green control box for 'a0 - b1' with 'Max: +Infini' and an unchecked 'Signed' checkbox. At the bottom right is a blue control box for 'b0 - a1' with 'Max: +Infini' and an unchecked 'Signed' checkbox. On the far right are three buttons: 'Reset', 'OK', and 'Cancel'.

CLASSIFICATION : RESULTAT

The screenshot displays a software window titled 'proj301.xml' with a menu bar (File, Project, Scenario, Misc. Operations, L1 Operations, L2 Operations, L3 Operations, View). The interface is divided into several panes:

- Left Pane:** Contains a tree view of classification operations. The selected item is 'CreateLabel: Type=CC'. Below it, a list of operations is shown, including 'FindCC: Parent=DOCUMENT, New=CC, BinarizationBasicThreshold=150', 'CreateLabel: Type=NOISE', and 'Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=NOI'.
- Bottom-Left Pane:** A log window showing the execution of the 'CFindCC' operation. The log includes messages such as 'Background thread done.', 'Background thread started...', 'CFindCC: Find CC...', 'CFindCC: Expand...', 'Detect CC...', 'Adding 1164 CC to graph...', 'Adding CC OK.', 'Results = 1', and 'CInsert: NOISE <- { CC }'.
- Center-Right Pane:** A tree view of the detected components. It lists 'NOISE' and 'CC' (Connected Component) elements with their bounding boxes and coordinates. For example, 'NOISE{X=768,Y=1637,Width=2,Height=1}' and 'CC{X=768,Y=1637,Width=2,Height=1}'.
- Bottom-Center Pane:** A table showing the classification results. The table has two columns: 'Label' and 'Count'. The legend indicates: 'NONAME' (black square), 'DOCUMENT' (red square), 'CC' (green square), and 'NOISE' (blue square).
- Right Pane:** A large image of a scanned page of text in French. The text is: 'LIVRE PREMIER
faut laisser aus femmes cete vair
stitiō de parolles)auec vne espō
la pourquoy, *spongia*, est vn
scoene en Latin:& estoit cete e
atachée au bout d'vn baston,
tesmoigne l'histoire de celuy qu
noit pour estre presenté aus bo
uant le peuple, qui demanda cor
ler a fes affaires, & la n'ayant aut
de se tuer, il se fourra ce baston'.

SUPPRESSION DES EOC « NOISE »



AUTRES EOC : CARACTÈRES, IMAGES, ETC.

✖ Classification par taille

+ Caractères : taille spécifiée

- ✖ Taille X < 80

- ✖ Taille Y < 80

+ Images : tout le reste 😊

+ Accents : caractères de taille « petite »

- ✖ Taille X < 25

- ✖ Taille Y < 20

CARACTÈRES : RESULTAT

proj301.xml

File Project Scenario Misc. Operations L1 Operations L2 Operations L3 Operations View

CreateLabel: Type=CC
FindCC: Parent=DOCUMENT, New=CC, BinarizationBasic.Threshold=150
CreateLabel: Type=NOISE
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=NOI
Delete: Parent=DOCUMENT, Child=NOISE, DeleteAll=True
CreateLabel: Type=CHAR
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=CHA

300
400
500
600
700
800
Results = 854
CInsert: OK.
CClassifyByFeatures: OK.
Background thread done.
Background thread started...
CClassifyByFeatures: Classify...
CInsert: CHAR <- { CC }

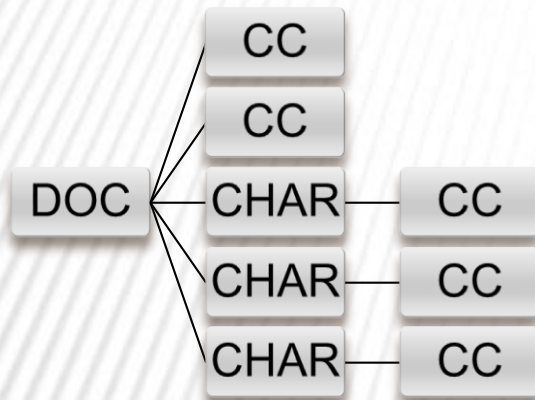
100
200
300
400
500
600
700
800
Results = 861
CInsert: OK.
CClassifyByFeatures: OK.
Background thread done.

Label	Count
NONAME	
DOCUMENT	
CC	
NOISE	
CHAR	

CHAR{X=297,Y=1073,Width=45,Height=66}{w=1,[297.0]1
CC{X=297,Y=1073,Width=45,Height=66}{w=1,[297.0]1
CHAR{X=711,Y=1073,Width=21,Height=14}{w=1,[711.0]1
CC{X=711,Y=1073,Width=21,Height=14}{w=1,[711.0]1
CHAR{X=219,Y=1077,Width=5,Height=6}{w=1,[219.0]107
CC{X=219,Y=1077,Width=5,Height=6}{w=1,[219.0]107
CHAR{X=388,Y=1077,Width=5,Height=6}{w=1,[388.0]107
CC{X=388,Y=1077,Width=5,Height=6}{w=1,[388.0]107
CHAR{X=274,Y=1078,Width=5,Height=5}{w=1,[274.0]107
CC{X=274,Y=1078,Width=5,Height=5}{w=1,[274.0]107
CHAR{X=178,Y=1079,Width=5,Height=5}{w=1,[178.0]107
CC{X=178,Y=1079,Width=5,Height=5}{w=1,[178.0]107
CHAR{X=76,Y=1080,Width=37,Height=39}{w=1,[76.0]108
CC{X=76,Y=1080,Width=37,Height=39}{w=1,[76.0]108
CHAR{X=794,Y=1090,Width=22,Height=28}{w=1,[794.0]1
CC{X=794,Y=1090,Width=22,Height=28}{w=1,[794.0]1
CHAR{X=873,Y=1090,Width=9,Height=9}{w=1,[873.0]109
CC{X=873,Y=1090,Width=9,Height=9}{w=1,[873.0]109
CHAR{X=881,Y=1090,Width=15,Height=27}{w=1,[881.0]1
CC{X=881,Y=1090,Width=15,Height=27}{w=1,[881.0]1
CHAR{X=749,Y=1090,Width=24,Height=29}{w=1,[749.0]1

X=302 Y=1077

IMAGES : « TOUT LE RESTE »



Classify By Features

Classify By...
 Position
 Size
 Form

Label of parent: DOCUMENT
Label of new EOC: IMAGE
Label of child: CC

Replace child

Features of child:

	a0	b0
▶ EUCLIDIAN_X	0	0
EUCLIDIAN_Y	0	0
RANGEMAP_X	0	0
RANGEMAP_Y	0	0
CHILDS_NUMBER	0	0

Coefficients:

0
0
0
0
0
0

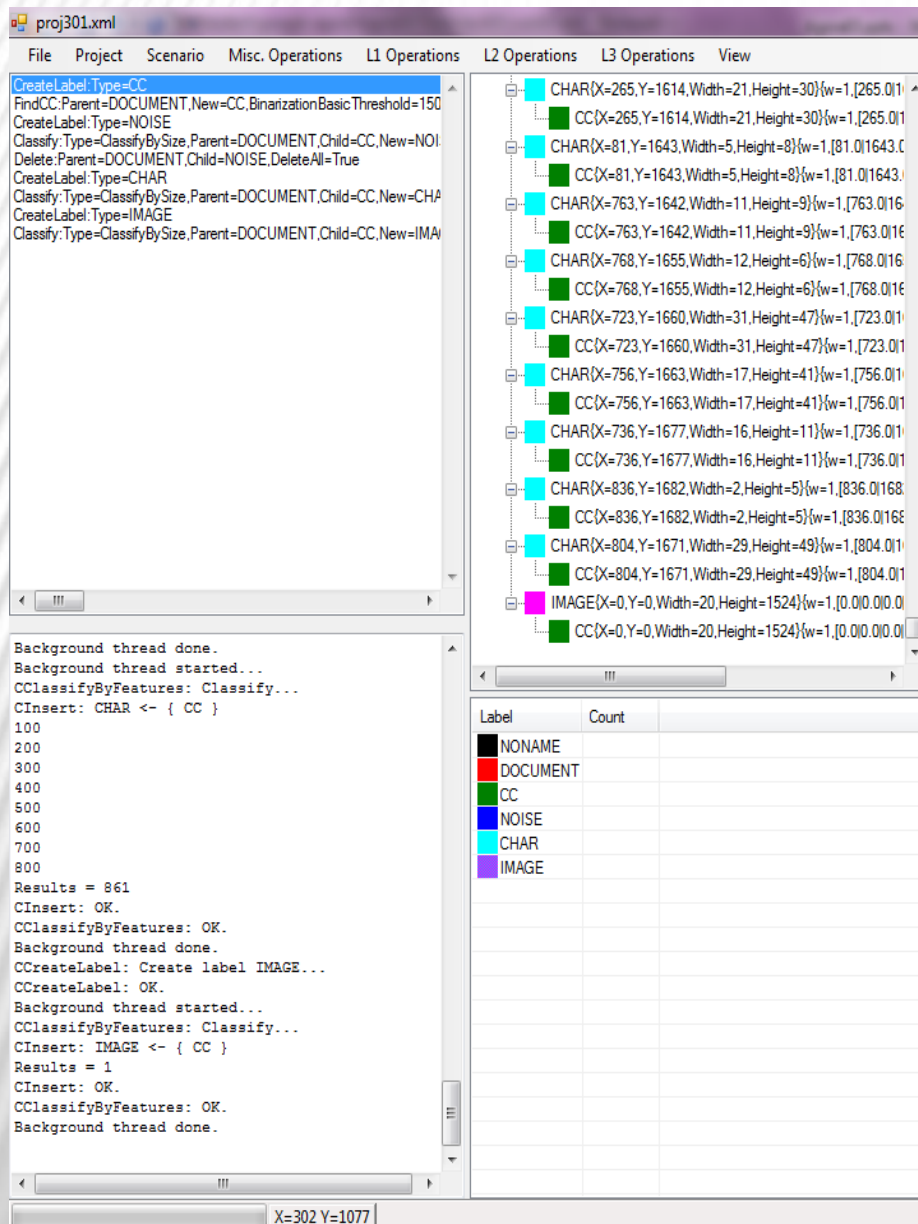
Comparators:

Ch0
+Infini
+Infini
+Infini
+Infini
+Infini

Add Del

Reset OK Cancel

IMAGES : RESULTAT



proj301.xml

File Project Scenario Misc. Operations L1 Operations L2 Operations L3 Operations View

CreateLabel: Type=CC
FindCC: Parent=DOCUMENT, New=CC, BinarizationBasic.Threshold=150
CreateLabel: Type=NOISE
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=NOI
Delete: Parent=DOCUMENT, Child=NOISE, DeleteAll=True
CreateLabel: Type=CHAR
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=CHA
CreateLabel: Type=IMAGE
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=IMA

CHAR(X=265, Y=1614, Width=21, Height=30){w=1, [265.0|1
CC(X=265, Y=1614, Width=21, Height=30){w=1, [265.0|1
CHAR(X=81, Y=1643, Width=5, Height=8){w=1, [81.0|1643.C
CC(X=81, Y=1643, Width=5, Height=8){w=1, [81.0|1643.
CHAR(X=763, Y=1642, Width=11, Height=9){w=1, [763.0|16
CC(X=763, Y=1642, Width=11, Height=9){w=1, [763.0|16
CHAR(X=768, Y=1655, Width=12, Height=6){w=1, [768.0|16
CC(X=768, Y=1655, Width=12, Height=6){w=1, [768.0|16
CHAR(X=723, Y=1660, Width=31, Height=47){w=1, [723.0|1
CC(X=723, Y=1660, Width=31, Height=47){w=1, [723.0|1
CHAR(X=756, Y=1663, Width=17, Height=41){w=1, [756.0|1
CC(X=756, Y=1663, Width=17, Height=41){w=1, [756.0|1
CHAR(X=736, Y=1677, Width=16, Height=11){w=1, [736.0|1
CC(X=736, Y=1677, Width=16, Height=11){w=1, [736.0|1
CHAR(X=836, Y=1682, Width=2, Height=5){w=1, [836.0|168
CC(X=836, Y=1682, Width=2, Height=5){w=1, [836.0|168
CHAR(X=804, Y=1671, Width=29, Height=49){w=1, [804.0|1
CC(X=804, Y=1671, Width=29, Height=49){w=1, [804.0|1
IMAGE(X=0, Y=0, Width=20, Height=1524){w=1, [0.0|0.0|0.0
CC(X=0, Y=0, Width=20, Height=1524){w=1, [0.0|0.0|0.0

Background thread done.
Background thread started...
CClassifyByFeatures: Classify...
CInsert: CHAR <- { CC }
100
200
300
400
500
600
700
800
Results = 861
CInsert: OK.
CClassifyByFeatures: OK.
Background thread done.
CCreateLabel: Create label IMAGE...
CCreateLabel: OK.
Background thread started...
CClassifyByFeatures: Classify...
CInsert: IMAGE <- { CC }
Results = 1
CInsert: OK.
CClassifyByFeatures: OK.
Background thread done.

Label	Count
NONAME	
DOCUMENT	
CC	
NOISE	
CHAR	
IMAGE	

X=302 Y=1077

LIVRE PREMIER 455

faut laisser aus femmes cete vaine super-
stitiõ de parolles) avec vne espõge. Voi-
la pourquoy, *spongia*, est vn mot ob-
scene en Latin: & estoit cete esponge
atachée au bout d'vn baston, comme
tesmoigne l'histoire de celuy qu'on me-
noit pour estre presenté aus bestes de-
uant le peuple, qui demanda congé d'al-
ler a ses affaires, & la n'ayant autre moié
de se tuer, il se fourra ce baston & espõ-
ge dans le gosier & s'en estoufa. Ilz s'ef-
fuyoint le catze de laine parfumée, quãd
ilz en auoint fait,

At tibi nil faciam, sed lota mētula lana.
Il y auoit aus carrefours a Rome des
vaïsleaus & demy cuues pour y aprester
a piffer aus passans.
*Pulsissepe lacū propter se ac dolia curta
Somno deuincti credunt extollere vestē*
Ilz faifoient collation entre les repas. & y
auoit en cité des védeurs de negc pour

Ff 4

ACCENTS : LES DIFFICULTÉS ARRIVENT... ☺

The screenshot displays the AGORA software interface for a project named 'proj301.xml'. The interface is divided into several panels:

- Left Panel (Log/Console):** Shows a list of operations and their results. Key entries include:
 - 700 Results = 861
 - 800 Results = 1
 - 100 Results = 196
- Tree View (Center):** A hierarchical tree structure representing the labeled regions. It includes nodes for CHAR and ACCENT with their respective bounding boxes and coordinates. For example:
 - CHAR(X=725,Y=1625,Width=11,Height=8){w=1,[725.0;1625.0;736.0;1633.0]}
 - ACCENT(X=740,Y=1624,Width=19,Height=8){w=1,[740.0;1624.0;759.0;1632.0]}
- Legend (Bottom Center):** A table defining the labels used in the tree view:

Label	Count
NONAME	
DOCUMENT	
CC	
NOISE	
CHAR	
IMAGE	
ACCENT	
- Main Image (Right):** A large image of handwritten text in French, with small colored boxes (yellow, green, blue) overlaid on specific characters and accents to indicate the detected regions.

COMBINER ACCENTS ET CARACTÈRES ?

× Comparaison

+ Caractère

+ Accent

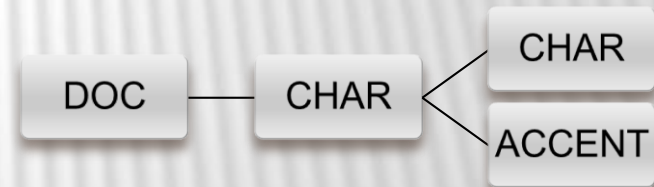
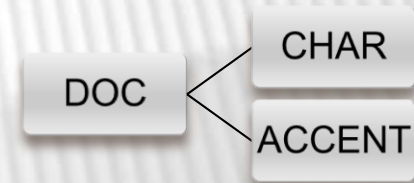
× « au-dessus » d'un caractère

× « à peu près centré » par rapport à ce caractère

× Reconnaissance = Insertion

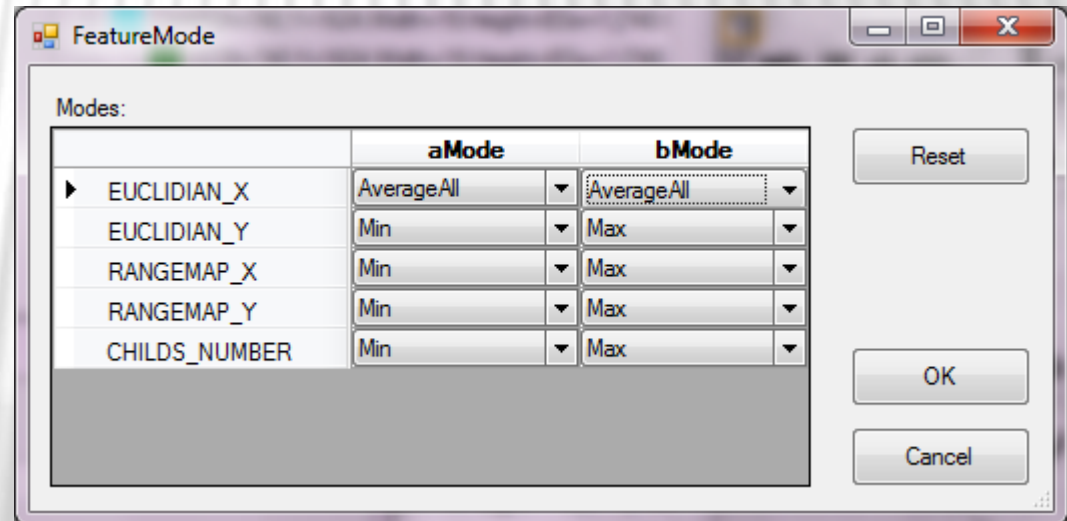
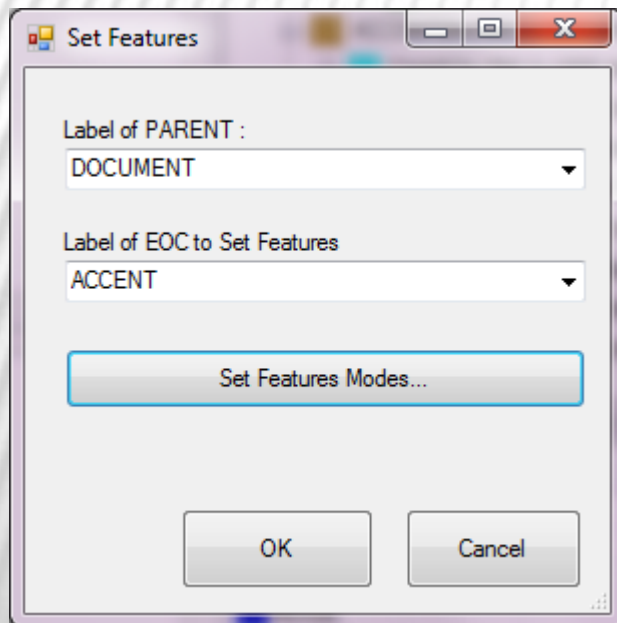
+ Insertion d'un EOC « CHAR »

× Simplification si besoin



PREPARATIF : FEATURES DES EOC « ACCENT »

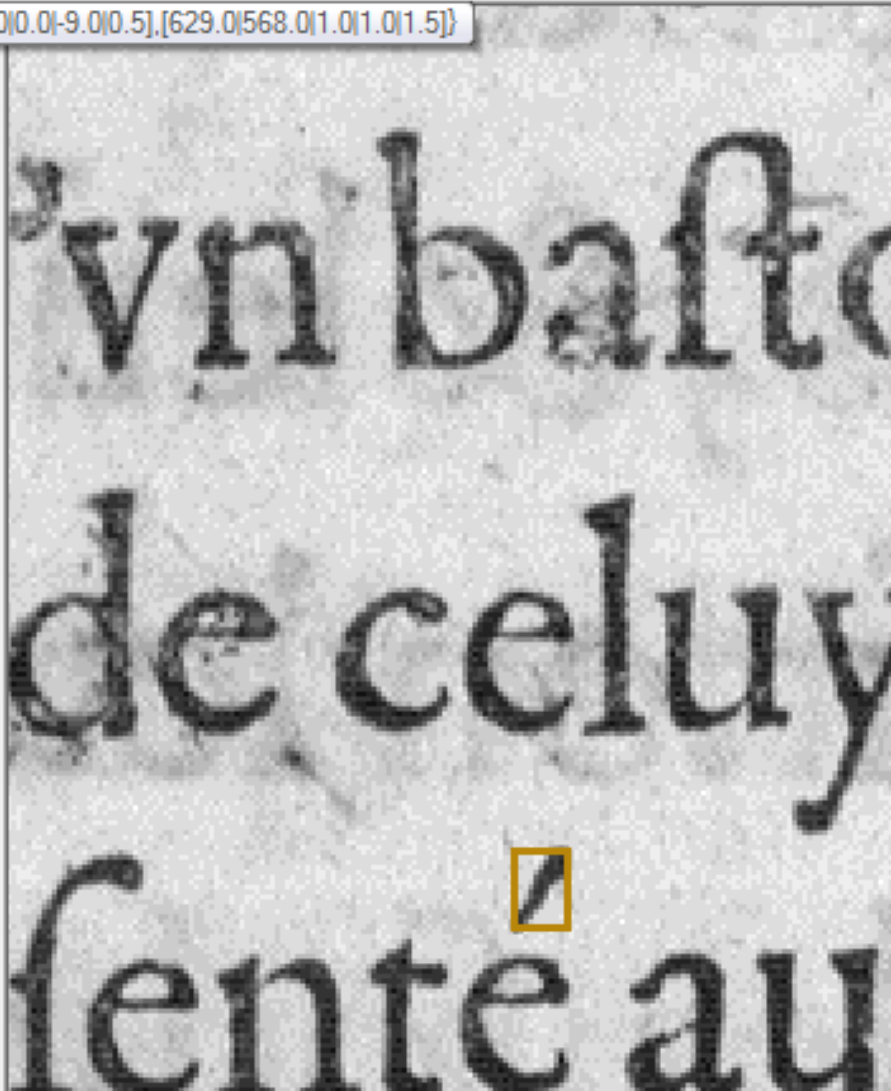
- ✗ Pour un EOC « ACCENT », on va utiliser
 - + La position moyenne en X
 - + Les positions min/max en Y



PRÉPARATIFS : RÉSULTAT

L2 Operations L3 Operations View

- ACCENT{X=624,Y=553,Width=11,Height=16}{w=1,[629.0|553.0|0.0|9.0|0.5],[629.0|568.0|1.0|1.0|1.5]}
 - CHAR{X=624,Y=553,Width=11,Height=16}{w=1,[624.0|553.0|0.0|11.0|16.0]}
 - CC{X=624,Y=553,Width=11,Height=16}{w=1,[624.0|553.0|0.0|11.0|16.0]}
- ACCENT{X=143,Y=557,Width=8,Height=6}{w=1,[146.5|557.0|0.0|8.0|6.0]}
 - CHAR{X=143,Y=557,Width=8,Height=6}{w=1,[143.0|557.0|0.0|8.0|6.0]}
 - CC{X=143,Y=557,Width=8,Height=6}{w=1,[143.0|557.0|0.0|8.0|6.0]}
- ACCENT{X=931,Y=585,Width=16,Height=11}{w=1,[938.5|585.0|0.0|16.0|11.0]}
 - CHAR{X=931,Y=585,Width=16,Height=11}{w=1,[931.0|585.0|0.0|16.0|11.0]}
 - CC{X=931,Y=585,Width=16,Height=11}{w=1,[931.0|585.0|0.0|16.0|11.0]}
- ACCENT{X=411,Y=589,Width=21,Height=15}{w=1,[421.0|589.0|0.0|21.0|15.0]}
 - CHAR{X=411,Y=589,Width=21,Height=15}{w=1,[411.0|589.0|0.0|21.0|15.0]}
 - CC{X=411,Y=589,Width=21,Height=15}{w=1,[411.0|589.0|0.0|21.0|15.0]}
- ACCENT{X=218,Y=600,Width=4,Height=6}{w=1,[219.5|600.0|0.0|4.0|6.0]}
 - CHAR{X=218,Y=600,Width=4,Height=6}{w=1,[218.0|600.0|0.0|4.0|6.0]}
 - CC{X=218,Y=600,Width=4,Height=6}{w=1,[218.0|600.0|0.0|4.0|6.0]}
- ACCENT{X=828,Y=625,Width=13,Height=19}{w=1,[834.0|625.0|0.0|13.0|19.0]}
 - CHAR{X=828,Y=625,Width=13,Height=19}{w=1,[828.0|625.0|0.0|13.0|19.0]}
 - CC{X=828,Y=625,Width=13,Height=19}{w=1,[828.0|625.0|0.0|13.0|19.0]}
- ACCENT{X=461,Y=632,Width=7,Height=6}{w=1,[464.0|632.0|0.0|7.0|6.0]}
 - CHAR{X=461,Y=632,Width=7,Height=6}{w=1,[461.0|632.0|0.0|7.0|6.0]}
 - CC{X=461,Y=632,Width=7,Height=6}{w=1,[461.0|632.0|0.0|7.0|6.0]}



INSERTION : COMPARAISON EOC/EOC

✖ Labels des EOC

- + Parent = « DOCUMENT »
- + Fils 0 = « CHAR », Fils 1 = « ACCENT »
- + A insérer : « CHAR »

Insert

Parent: DOCUMENT

New EOC: CHAR Set Features Modes...

Childs: Child 0 Child 1

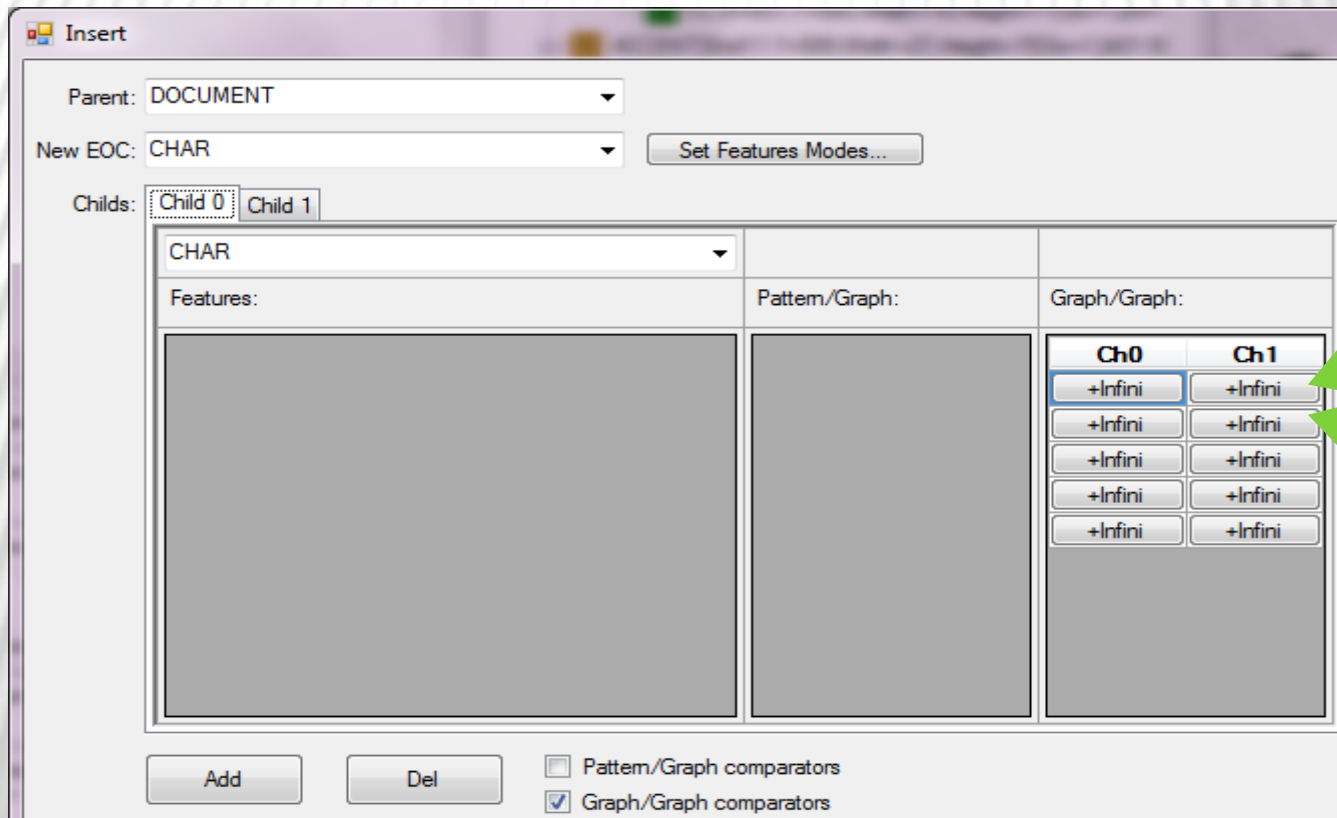
Child 0	Child 1
CHAR	CHAR
Features:	Pattern/Graph:
	Graph/Graph:
	Ch0 Ch1
	+Infini +Infini
	+Infini +Infini
	+Infini +Infini
	+Infini +Infini
	+Infini +Infini

Add Del Pattern/Graph comparators Graph/Graph comparators

INSERTION : COMPARAISON EOC/EOC

✖ Comparaison

- + Fils 0 (« CHAR ») → Fils 1 (« ACCENT »)
- + Fils 1 centré en X par rapport à fils 0
- + (Ymin de fils 0 - Ymax de fils 1) < 15 pixels



INSERTION : COMPARAISON EOC/EOC (1)

FeatureMatrixComparator

EUCLIDIAN_X

Graph's EOC Feature

Pattern's or Graph's EOC Feature

a0 - a1
Max: -Infini
 Signed

b0 - b1
Max: +Infini
 Signed

a0 - b1
Max: +Infini
 Signed

b0 - a1
Max: +Infini
 Signed

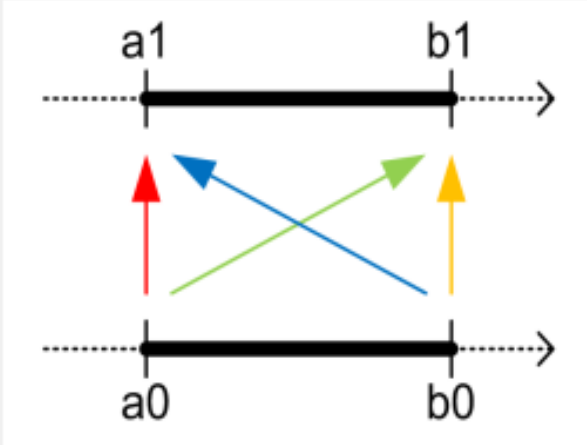
Reset
OK
Cancel

INSERTION : COMPARAISON EOC/EOC (2)

FeatureMatrixComparator

EUCLIDIAN_Y

Graph's EOC Feature



Pattern's or Graph's EOC Feature

a0 - a1
Max: +Infini
 Signed

b0 - b1
Max: +Infini
 Signed

a0 - b1
Max: 15
 Signed

b0 - a1
Max: +Infini
 Signed

Reset
OK
Cancel

INSERTION : RESULTAT

The screenshot displays the AGORA software interface with the following components:

- Project Tree (Left Pane):** Shows a hierarchical structure of labels and operations. Labels include CC, CHAR, ACCENT, and IMAGE. Operations include FindCC, CreateLabel, Classify, Delete, and Insert.
- Log (Bottom Left):** Displays a sequence of operations and their results, such as "CInsert: IMAGE <- { CC }", "Results = 1", "CInsert: OK", "CClassifyByFeatures: OK", "CCreateLabel: Create label ACCENT...", "CClassifyByFeatures: Classify...", "CInsert: ACCENT <- { CHAR }", "Results = 203", "CSetFeatures", "Results = 203", "CSetFeatures: OK", "CInsert: CHAR <- { CHAR + ACCENT }", "Results = 64", "CInsert: OK", and "Background thread done."
- Table (Bottom Center):** A table with two columns: "Label" and "Count". The labels listed are NONAME, DOCUMENT, CC, NOISE, CHAR, IMAGE, and ACCENT.
- Main Document (Right Pane):** Shows a document with text and bounding boxes. The text includes "onged", "d'al", "tre", "moie", and "n & espo". Bounding boxes are color-coded: cyan for CHAR, green for CC, brown for ACCENT, and orange for IMAGE.

CONSTRUCTION DES LIGNES...

LIGNES

- × Création d'un label « LINE »
- × Fusion des EOC « CHAR » en « LINE »
 - + Une nouvelle LINE aura comme Y = moyenne des Y fils
 - + Processus de fusion
 - × CHAR → LINE
 - × LINE = LINE + LINE si alignement Y satisfaisant
 - × Simplification finale

FeatureMatrixComparator

EUCLIDIAN_Y

Graph's EOC Feature

Pattern's or Graph's EOC Feature

a0 - a1

Max:

Signed

b0 - b1

Max: +Infini

Signed

a0 - b1

Max: +Infini

Signed

b0 - a1

Max: +Infini

Signed

FeatureMode

Modes:

	aMode	bMode
▶ EUCLIDIAN_X	Min	Max
EUCLIDIAN_Y	AverageAll	AverageAll
RANGEMAP_X	Min	Max
RANGEMAP_Y	Min	Max
CHILDS_NUMBER	Min	Max

LIGNES : RÉSULTAT

proj301.xml

File Project Scenario Misc. Operations L1 Operations L2 Operations L3 Operations View

CreateLabel: Type=CC
FindCC: Parent=DOCUMENT, New=CC, BinarizationBasic.Threshold=150
CreateLabel: Type=NOISE
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=NOI
Delete: Parent=DOCUMENT, Child=NOISE, DeleteAll=True
CreateLabel: Type=CHAR
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=CHA
CreateLabel: Type=IMAGE
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=IMA
CreateLabel: Type=ACCENT
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CHAR, New=/
SetFeatures: Parent=DOCUMENT, Child=ACCENT, Mode={{(a=Average/
Insert: Parent=DOCUMENT, Childs={CHAR, ACCENT, }, New=CHAR, Fea
CreateLabel: Type=LINE
Fusion: Parent=DOCUMENT, Childs=CHAR, New=LINE, Comparator={0=

500
600
Results = 635
Results = 635
CInsert: OK.
CInsert: LINE <- { LINE + LINE }
CInsert: OK.
CFusion: Phase 3 : Simplification...
CDelete: Delete child LINE...
100
200
300
400
500
600
700
800
900
1000
1100
1200
Results = 1270
CDelete: OK.
CFusion: OK.
Background thread done.

CHAR(X=88,Y=1515,Width=10,Height=48){w=1,[88,0] < >
CC(X=88,Y=1515,Width=10,Height=48){w=1,[88,0] < >
CHAR(X=135,Y=1516,Width=25,Height=50){w=1,[135 < >
CC(X=135,Y=1516,Width=25,Height=50){w=1,[13: < >
CHAR(X=69,Y=1513,Width=18,Height=53){w=1,[69,0] < >
CC(X=69,Y=1513,Width=18,Height=53){w=1,[69,0] < >
CHAR(X=189,Y=1518,Width=25,Height=50){w=1,[189 < >
CC(X=189,Y=1518,Width=25,Height=50){w=1,[18: < >
CHAR(X=367,Y=1518,Width=10,Height=50){w=1,[367 < >
CC(X=367,Y=1518,Width=10,Height=50){w=1,[36: < >
CHAR(X=380,Y=1519,Width=11,Height=48){w=1,[380 < >
CC(X=380,Y=1519,Width=11,Height=48){w=1,[38: < >
CHAR(X=907,Y=1524,Width=27,Height=50){w=1,[907 < >
CC(X=907,Y=1524,Width=27,Height=50){w=1,[90: < >
CHAR(X=818,Y=1528,Width=17,Height=29){w=1,[818 < >
CC(X=818,Y=1528,Width=17,Height=29){w=1,[81: < >
CHAR(X=762,Y=1529,Width=16,Height=49){w=1,[762 < >
CC(X=762,Y=1529,Width=16,Height=49){w=1,[76: < >
CHAR(X=794,Y=1529,Width=21,Height=28){w=1,[794 < >
CC(X=794,Y=1529,Width=21,Height=28){w=1,[79: < >

Label	Count
NONAME	
DOCUMENT	
CC	
NOISE	
CHAR	
IMAGE	
ACCENT	
LINE	

X=907 Y=705

LIVRE PREMIER 455
faut laisser aus femmes cete vaine super-
stitiõ de parolles)avec vne espõge. Voi-
la pourquoy, *spongia*, est vn mot ob-
scoene en Latin:& estoit cete esponge
atachée au bout d'vn baston, comme
tesnoigne l'histoire de celuy qu'on me-
noit pour estre presenté aus bestes de-
uant le peuple, qui demanda congé d'al-
ler a ses affaires, & la n'ayant autre moie
de se tuer, il se fourra ce baston & espõ-
ge dans le gosier & s'en estoufa. Ilz s'es-
fuyoint le catze de laine perfumée, quãd
ilz en auoint fait,

CONSTRUCTION DES MOTS...

MOTS

- × Contexte = LINE
- × On fusionne simplement les CHAR qui sont proches en X
- × Fusion
 - + CHAR \rightarrow WORD
 - + WORD = WORD + WORD si X satisfaisant
 - + Simplification finale

MOTS : CRITÈRE DE FUSION EN X

FeatureMatrixComparator

EUCLIDIAN_X

Graph's EOC Feature

Pattern's or Graph's EOC Feature

a0 - a1
Max: +Infini
 Signed

b0 - b1
Max: +Infini
 Signed

a0 - b1
Max: 7
 Signed

b0 - a1
Max: +Infini
 Signed

Reset
OK
Cancel

MOTS : RÉSULTATS

The screenshot displays a software window titled 'proj301.xml' with a menu bar (File, Project, Scenario, Misc. Operations, L1 Operations, L2 Operations, L3 Operations, View). The main area is divided into several panels:

- Command Log (Left):** Shows a sequence of operations such as 'CreateLabel: Type=CC', 'FindCC: Parent=DOCUMENT, New=CC, BinarizationBasic Threshold=150', 'Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=NOI', and 'CFusion: Phase 2 : Fusion...'. It also displays 'Results = 439' and 'Results = 878'.
- Tree View (Middle-Left):** A hierarchical tree of detected elements with bounding boxes and weights. Examples include:
 - ACCENT(X=721,Y=427,Width=8,Height=13){w=1,[724.514}
 - CHAR(X=721,Y=427,Width=8,Height=13){w=1,[721.0}
 - CC(X=721,Y=427,Width=8,Height=13){w=1,[721.0}
- Legend (Bottom-Middle):** A table mapping colors to labels:

Label	Count
NONAME	
DOCUMENT	
CC	
NOISE	
CHAR	
IMAGE	
ACCENT	
LINE	
WORD	
- Main Image (Right):** A grayscale image of a handwritten document with orange bounding boxes around individual characters and words. The text is partially legible, including 'gia, est vn moi', 'estoit cete espo', 'vn baston, co', 'de celuy qu'on', and 'esenté aus bestes'.

MOTS : INTERSECTION

Intersection

Label of parent: LINE

Label of new EOC: WORD

Labels of childs: WORD WORD

Coefficients:

	0
▶ EUCLIDIAN_X	1
EUCLIDIAN_Y	0
RANGEMAP_X	0
RANGEMAP_Y	0
CHILDS_NUMBER	0

Reset

OK

Cancel

INTERSECTION : RESULTAT

The screenshot displays the AGORA software interface with the following components:

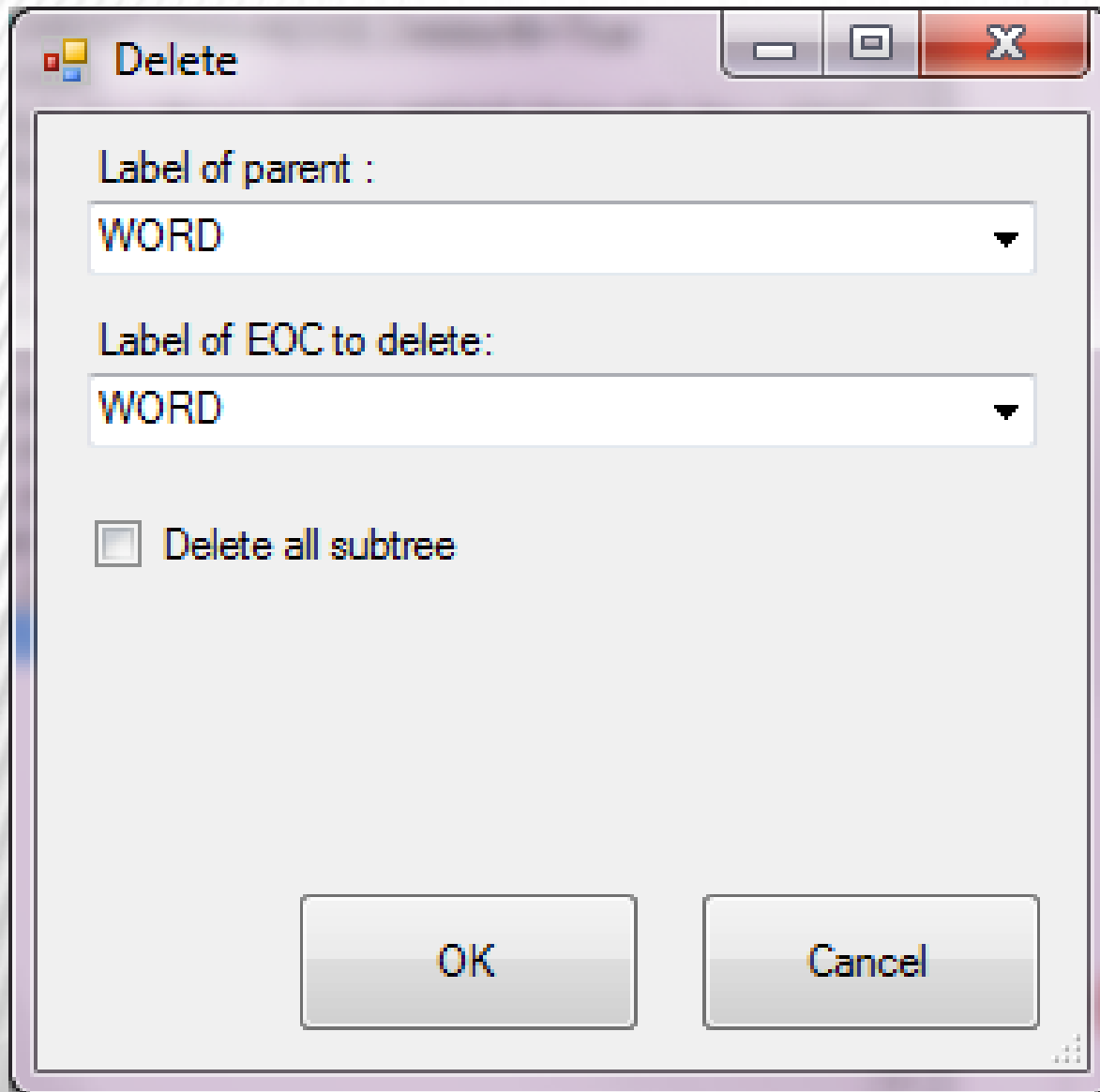
- Menu Bar:** File, Project, Scenario, Misc. Operations, L1 Operations, L2 Operations, L3 Operations, View.
- Command Log (Left Panel):**

```
CreateLabel: Type=CC  
FindCC: Parent=DOCUMENT, New=CC, BinarizationBasic Threshold=150  
CreateLabel: Type=NOISE  
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=NOI  
Delete: Parent=DOCUMENT, Child=NOISE, DeleteAll=True  
CreateLabel: Type=CHAR  
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=CHA  
CreateLabel: Type=IMAGE  
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=IMA  
CreateLabel: Type=ACCENT  
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CHAR, New=  
SetFeatures: Parent=DOCUMENT, Child=ACCENT, Mode={{a=Average/  
Insert: Parent=DOCUMENT, Childs={CHAR, ACCENT, }, New=CHAR, Fea  
CreateLabel: Type=LINE  
Fusion: Parent=DOCUMENT, Childs=CHAR, New=LINE, Comparator={0=  
CreateLabel: Type=WORD  
Fusion: Parent=LINE, Childs=CHAR, New=WORD, Comparator={0={Fals  
Intersection: Parent=LINE, Childs={WORD, WORD, }, New=WORD, Coeff
```

CInsert: OK.
CInsert: WORD <- { WORD + WORD }
CInsert: OK.
CFusion: Phase 3 : Simplification...
CDelete: Delete child WORD...
100
200
300
400
500
600
700
800
Results = 878
CDelete: OK.
CFusion: OK.
Background thread done.
Background thread started...
CIntersect: ChildsEOC -> NewEOC...
CInsert: WORD <- { WORD + WORD }
Results = 33
Results = 33
CInsert: OK.
CIntersect: OK.
Background thread done.
- Tree View (Middle Panel):** A hierarchical tree structure showing the document's components. The root is 'DOCUMENT', which contains 'LINE' and 'WORD'. 'LINE' contains 'CHAR' and 'CC'. 'WORD' contains 'CHAR' and 'CC'. The tree is color-coded: NONAME (black), DOCUMENT (red), CC (green), NOISE (blue), CHAR (cyan), IMAGE (magenta), ACCENT (yellow), LINE (orange), and WORD (dark blue).
- Table (Bottom Middle Panel):**

Label	Count
NONAME	
DOCUMENT	
CC	
NOISE	
CHAR	
IMAGE	
ACCENT	
LINE	
WORD	
- Main Image Area (Right Panel):** A grayscale image of a document page with several lines of text. Orange bounding boxes are drawn around individual characters and words, indicating the results of the intersection operation. The text includes: "est vn mot ob-", "it cère esponge", "oalton, comme", "eluy qu'on me-", and "é aus bestes de-".

INTERSECTION : SIMPLIFICATION



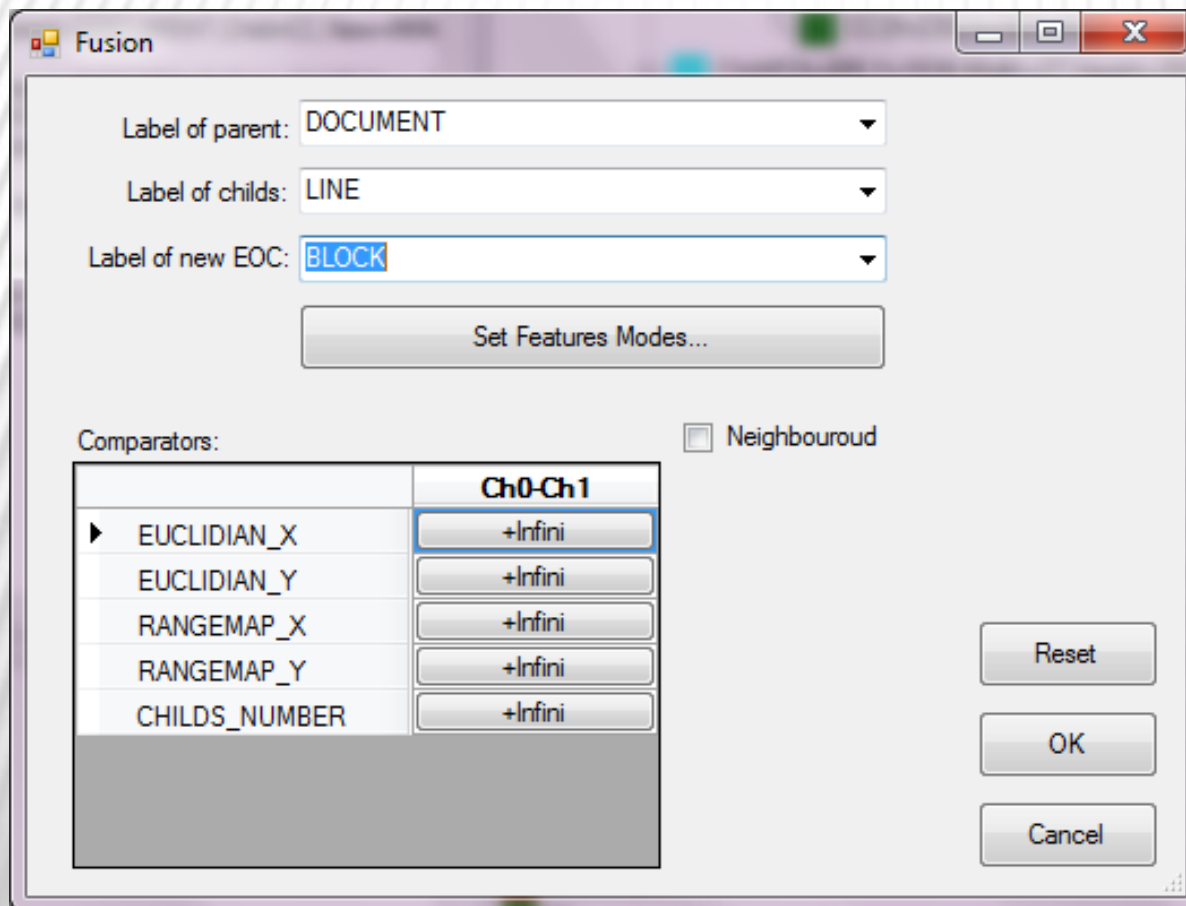
INTERSECTION + SIMPLIFICATION : RESULTAT

The screenshot displays a software application window titled "proj301.xml". The interface is divided into several sections:

- Menu Bar:** File, Project, Scenario, Misc. Operations, L1 Operations, L2 Operations, L3 Operations, View.
- Left Sidebar:** A tree view showing a hierarchy of document elements. The root is "CreateLabel: Type=CC", which branches into "FindCC: Parent=DOCUMENT, New=CC, BinarizationBasic Threshold=150", "CreateLabel: Type=NOISE", "Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=NOI", "Delete: Parent=DOCUMENT, Child=NOISE, DeleteAll=True", "CreateLabel: Type=CHAR", "Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=CHA", "CreateLabel: Type=IMAGE", "Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=IMA", "CreateLabel: Type=ACCENT", "Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CHAR, New=ACCENT", "SetFeatures: Parent=DOCUMENT, Child=ACCENT, Mode={{a=Average}}, Insert: Parent=DOCUMENT, Childs={CHAR, ACCENT, .}, New=CHAR, FeatureLabel: Type=LINE", "Fusion: Parent=DOCUMENT, Childs=CHAR, New=LINE, Comparator={0=CreateLabel: Type=WORD", "Fusion: Parent=LINE, Childs=CHAR, New=WORD, Comparator={0={Fals", "Intersection: Parent=LINE, Childs={WORD, WORD, .}, New=WORD, Coeff", "Delete: Parent=WORD, Child=WORD, DeleteAll=False".
- Central Image:** A grayscale image of a document page with several lines of text. Orange bounding boxes are drawn around individual characters and words, indicating the result of the intersection and simplification process. The text includes "est vn mot ob-", "it céré esponge", "oalton, comme", "eluy qu'on me-", and "é aus bestes de-".
- Bottom Status Bar:** Displays the coordinates "X=764 Y=335".

BLOC DE TEXTE

- ✗ Rassemblement de toutes les lignes
- ✗ Fusion LINE → BLOCK
- + Pas de critère



BLOCS DE TEXTE : RESULTAT

The screenshot displays the AGORA software interface for processing text blocks. The main window shows a document titled 'proj301.xml' with a menu bar (File, Project, Scenario, Misc. Operations, L1 Operations, L2 Operations, L3 Operations, View). The left pane contains a list of operations performed, such as 'CreateLabel: Type=CC', 'FindCC: Parent=DOCUMENT, New=CC, BinarizationBasic Threshold=150', and 'CDelete: Delete child WORD...'. The middle pane shows a tree view of the document structure, with nodes representing different text elements like CHAR, CC, ACCENT, LINE, and BLOCK, each with associated bounding box coordinates (X, Y, Width, Height). The right pane shows a preview of the original text with colored bounding boxes around the blocks, corresponding to the tree view. The text is in French and Latin, with a red box around the first paragraph and a blue box around the second paragraph. The bottom status bar shows 'X=764 Y=335'.

Command Log:

```
CreateLabel: Type=CC
FindCC: Parent=DOCUMENT, New=CC, BinarizationBasic Threshold=150
CreateLabel: Type=NOISE
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=NOI
Delete: Parent=DOCUMENT, Child=NOISE, DeleteAll=True
CreateLabel: Type=CHAR
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=CHA
CreateLabel: Type=IMAGE
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CC, New=IMA
CreateLabel: Type=ACCENT
Classify: Type=ClassifyBySize, Parent=DOCUMENT, Child=CHAR, New=
Set Features: Parent=DOCUMENT, Child=ACCENT, Mode={a=Average,
Insert: Parent=DOCUMENT, Childs={CHAR, ACCENT, }, New=CHAR, Fea
CreateLabel: Type=LINE
Fusion: Parent=DOCUMENT, Childs=CHAR, New=LINE, Comparator={0=
CreateLabel: Type=WORD
Fusion: Parent=LINE, Childs=CHAR, New=WORD, Comparator={0={{Fals
Intersection: Parent=LINE, Childs={WORD, WORD, }, New=WORD, Coeff
Delete: Parent=WORD, Child=WORD, DeleteAll=False
CreateLabel: Type=BLOCK
Fusion: Parent=DOCUMENT, Childs=LINE, New=BLOCK, Comparator={0=
```

Tree View:

- CHAR(X=280, Y=128, Width=18, Height=31){w=...
- CC(X=280, Y=128, Width=18, Height=31){w=...
- CHAR(X=255, Y=130, Width=22, Height=29){w=...
- CC(X=255, Y=130, Width=22, Height=29){w=...
- CHAR(X=226, Y=107, Width=41, Height=51){w=...
- CC(X=226, Y=107, Width=41, Height=51){w=...
- CHAR(X=214, Y=112, Width=8, Height=47){w=...
- CHAR(X=214, Y=130, Width=8, Height=29){w=...
- CC(X=214, Y=130, Width=8, Height=29){w=...
- ACCENT(X=214, Y=112, Width=7, Height=8)
- CHAR(X=214, Y=112, Width=7, Height=...
- CC(X=214, Y=112, Width=7, Height=...
- CHAR(X=188, Y=130, Width=22, Height=30){w=...
- CC(X=188, Y=130, Width=22, Height=30){w=...
- CHAR(X=173, Y=110, Width=11, Height=50){w=...
- CC(X=173, Y=110, Width=11, Height=50){w=...
- CHAR(X=152, Y=128, Width=15, Height=32){w=...
- CC(X=152, Y=128, Width=15, Height=32){w=...
- CHAR(X=126, Y=128, Width=23, Height=32){w=...
- CC(X=126, Y=128, Width=23, Height=32){w=...

Table:

Label	Count
NONAME	
DOCUMENT	
CC	
NOISE	
CHAR	
IMAGE	
ACCENT	
LINE	
WORD	
BLOCK	

Text Preview:

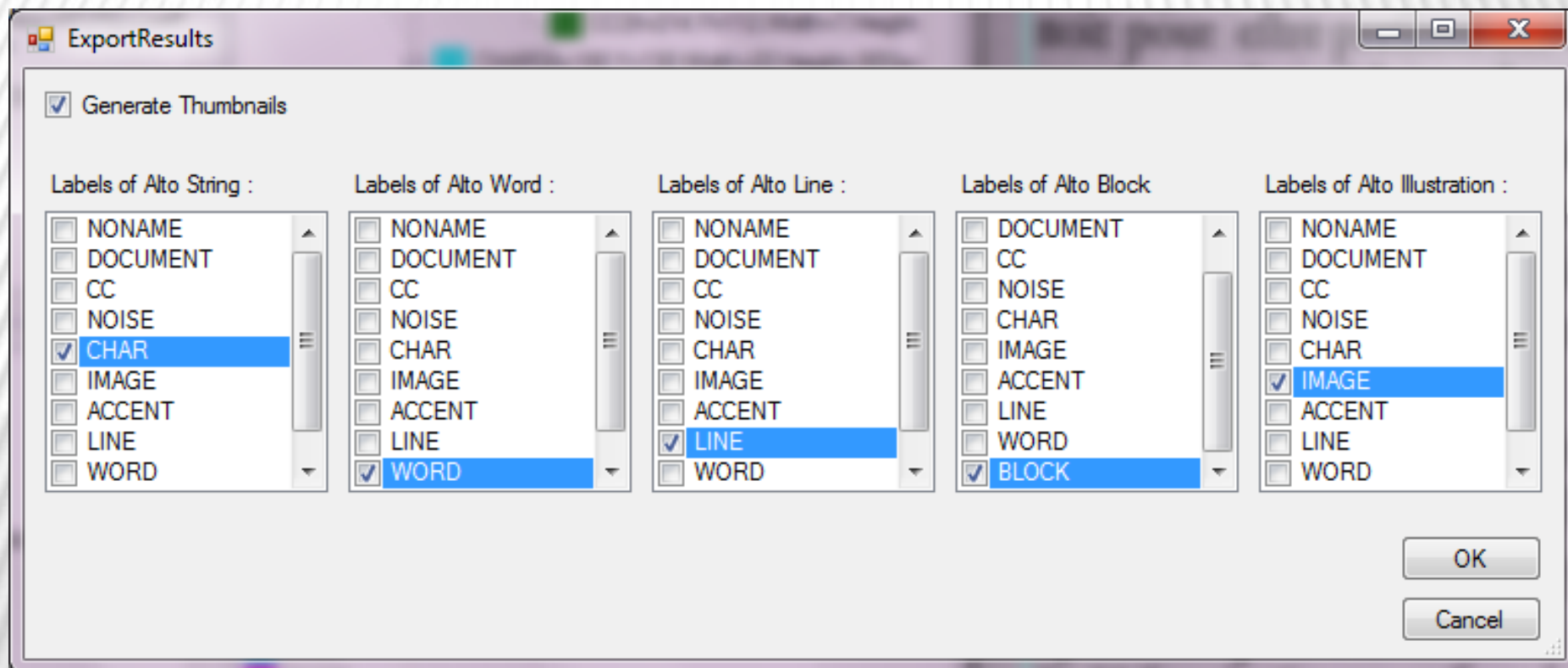
LIVRE PREMIER 455
faut laisser aus femmes cete vaine super-
fittio de parolles) avec vne espoge. Voi-
la pourquoy, *Spongia*, est vn mot ob-
scene en Latin: & estoit cete esponge
atachée au bout d'un baston, comme
tesmoigne l'histoire de celuy qu'on me-
noit pour estre presenté aus bestes de-
uant le peuple, qui demanda congé d'al-
ler a ses affaires, & la n'ayant autre moié
de se tuer, il se fourra ce baston & espö-
ge dans le gosier & s'en estoufa. Ilz s'es-
fuyoint le catze de laine parfumée, quād
ilz en auoint fait,

At tibi nil faciam, sed lota mētula lana.
Il y auoit aus carrefours a Rome des
vaisseaus & demy cuues pour y aprester
a piffer aus passans.

Pulsi saepe lacū propter se ac dolia curta
Somno deuincti credunt extollere vestē
Ilz faisoient collation entre les repas. & y
auoit en esté des védeurs de negc pour

Ff 4

EXPORTATION DES RESULTATS



EXPORTATION DES RESULTATS

```
X:\AgoraTests\test01\alto\00000.xml - Notepad++
Fichier Edition Recherche Affichage Encodage Langage Paramétrage Macro Exécution Compléments Documents ?
00000.xml
240 <alto:Styles>
241   <alto:ParagraphStyle ID="BLOCK" />
242   <alto:ParagraphStyle ID="LINE" />
243   <alto:ParagraphStyle ID="CHAR" />
244 </alto:Styles>
245 <alto:Layout>
246   <alto:Page ID="00000" HEIGHT="1952" WIDTH="1008" PHYSICAL_IMG_NR="0">
247     <alto:PrintSpace HEIGHT="1672" WIDTH="889" HPOS="68" VPOS="48">
248       <alto:TextBlock ID="00000.0" STYLEREF="BLOCK" HEIGHT="1672" WIDTH="889" HPOS="68" VPOS="48">
249         <alto:TextLine ID="00000.0.0" STYLEREF="LINE" HEIGHT="56" WIDTH="713" HPOS="244" VPOS="48">
266         <alto:TextLine ID="00000.0.1" STYLEREF="LINE" HEIGHT="72" WIDTH="852" HPOS="86" VPOS="107">
267           <alto:String ID="00000.0.1.0.0" STYLEREF="CHAR" HEIGHT="54" WIDTH="25" HPOS="86" VPOS="108" CONTENT="*" />
268           <alto:String ID="00000.0.1.1.0" STYLEREF="CHAR" HEIGHT="32" WIDTH="23" HPOS="126" VPOS="128" CONTENT="*" />
269           <alto:String ID="00000.0.1.1.1" STYLEREF="CHAR" HEIGHT="32" WIDTH="15" HPOS="152" VPOS="128" CONTENT="*" />
270           <alto:String ID="00000.0.1.1.2" STYLEREF="CHAR" HEIGHT="50" WIDTH="11" HPOS="173" VPOS="110" CONTENT="*" />
271           <alto:String ID="00000.0.1.1.3" STYLEREF="CHAR" HEIGHT="30" WIDTH="22" HPOS="188" VPOS="130" CONTENT="*" />
272           <alto:String ID="00000.0.1.1.4" STYLEREF="CHAR" HEIGHT="47" WIDTH="8" HPOS="214" VPOS="112" CONTENT="*" />
273           <alto:String ID="00000.0.1.1.5" STYLEREF="CHAR" HEIGHT="51" WIDTH="41" HPOS="226" VPOS="107" CONTENT="*" />
274           <alto:String ID="00000.0.1.1.6" STYLEREF="CHAR" HEIGHT="29" WIDTH="22" HPOS="255" VPOS="130" CONTENT="*" />
275           <alto:String ID="00000.0.1.1.7" STYLEREF="CHAR" HEIGHT="31" WIDTH="18" HPOS="280" VPOS="128" CONTENT="*" />
276           <alto:String ID="00000.0.1.2.0" STYLEREF="CHAR" HEIGHT="30" WIDTH="23" HPOS="312" VPOS="129" CONTENT="*" />
277           <alto:String ID="00000.0.1.2.1" STYLEREF="CHAR" HEIGHT="30" WIDTH="25" HPOS="339" VPOS="129" CONTENT="*" />
278           <alto:String ID="00000.0.1.2.2" STYLEREF="CHAR" HEIGHT="30" WIDTH="18" HPOS="367" VPOS="129" CONTENT="*" />
279           <alto:String ID="00000.0.1.3.0" STYLEREF="CHAR" HEIGHT="50" WIDTH="26" HPOS="396" VPOS="109" CONTENT="*" />
280           <alto:String ID="00000.0.1.3.1" STYLEREF="CHAR" HEIGHT="30" WIDTH="22" HPOS="412" VPOS="128" CONTENT="*" />
281           <alto:String ID="00000.0.1.3.2" STYLEREF="CHAR" HEIGHT="30" WIDTH="44" HPOS="438" VPOS="128" CONTENT="*" />
282           <alto:String ID="00000.0.1.3.3" STYLEREF="CHAR" HEIGHT="32" WIDTH="42" HPOS="486" VPOS="127" CONTENT="*" />
283           <alto:String ID="00000.0.1.3.4" STYLEREF="CHAR" HEIGHT="30" WIDTH="21" HPOS="534" VPOS="129" CONTENT="*" />
284           <alto:String ID="00000.0.1.3.5" STYLEREF="CHAR" HEIGHT="30" WIDTH="18" HPOS="560" VPOS="129" CONTENT="*" />
285           <alto:String ID="00000.0.1.4.0" STYLEREF="CHAR" HEIGHT="30" WIDTH="22" HPOS="591" VPOS="128" CONTENT="*" />
```

faut laiffer aus femmes cete vaine fuper

EXPORTATION DES RESULTATS

```
<alto:TextLine ID="00000.0.1" STYLEREFS="LINE" HEIGHT="72" WIDTH="852" HPOS="86" VPOS="107">
  <alto:String ID="00000.0.1.0.0" STYLEREFS="CHAR" HEIGHT="54" WIDTH="25" HPOS="86" VPOS="108" CONTENT="*" />
  <alto:String ID="00000.0.1.1.0" STYLEREFS="CHAR" HEIGHT="32" WIDTH="23" HPOS="126" VPOS="128" CONTENT="*" />
  <alto:String ID="00000.0.1.1.1" STYLEREFS="CHAR" HEIGHT="32" WIDTH="15" HPOS="152" VPOS="128" CONTENT="*" />
  <alto:String ID="00000.0.1.1.2" STYLEREFS="CHAR" HEIGHT="50" WIDTH="11" HPOS="173" VPOS="110" CONTENT="*" />
  <alto:String ID="00000.0.1.1.3" STYLEREFS="CHAR" HEIGHT="30" WIDTH="22" HPOS="188" VPOS="130" CONTENT="*" />
  <alto:String ID="00000.0.1.1.4" STYLEREFS="CHAR" HEIGHT="47" WIDTH="8" HPOS="214" VPOS="112" CONTENT="*" />
  <alto:String ID="00000.0.1.1.5" STYLEREFS="CHAR" HEIGHT="51" WIDTH="41" HPOS="226" VPOS="107" CONTENT="*" />
  <alto:String ID="00000.0.1.1.6" STYLEREFS="CHAR" HEIGHT="29" WIDTH="22" HPOS="255" VPOS="130" CONTENT="*" />
  <alto:String ID="00000.0.1.1.7" STYLEREFS="CHAR" HEIGHT="31" WIDTH="18" HPOS="280" VPOS="128" CONTENT="*" />
  <alto:String ID="00000.0.1.2.0" STYLEREFS="CHAR" HEIGHT="30" WIDTH="23" HPOS="312" VPOS="129" CONTENT="*" />
  <alto:String ID="00000.0.1.2.1" STYLEREFS="CHAR" HEIGHT="30" WIDTH="25" HPOS="339" VPOS="129" CONTENT="*" />
  <alto:String ID="00000.0.1.2.2" STYLEREFS="CHAR" HEIGHT="30" WIDTH="18" HPOS="367" VPOS="129" CONTENT="*" />
  <alto:String ID="00000.0.1.3.0" STYLEREFS="CHAR" HEIGHT="50" WIDTH="26" HPOS="396" VPOS="109" CONTENT="*" />
  <alto:String ID="00000.0.1.3.1" STYLEREFS="CHAR" HEIGHT="30" WIDTH="22" HPOS="412" VPOS="128" CONTENT="*" />
  <alto:String ID="00000.0.1.3.2" STYLEREFS="CHAR" HEIGHT="30" WIDTH="44" HPOS="438" VPOS="128" CONTENT="*" />
  <alto:String ID="00000.0.1.3.3" STYLEREFS="CHAR" HEIGHT="32" WIDTH="42" HPOS="486" VPOS="127" CONTENT="*" />
  <alto:String ID="00000.0.1.3.4" STYLEREFS="CHAR" HEIGHT="30" WIDTH="21" HPOS="534" VPOS="129" CONTENT="*" />
  <alto:String ID="00000.0.1.3.5" STYLEREFS="CHAR" HEIGHT="30" WIDTH="18" HPOS="560" VPOS="129" CONTENT="*" />
  <alto:String ID="00000.0.1.4.0" STYLEREFS="CHAR" HEIGHT="30" WIDTH="22" HPOS="591" VPOS="128" CONTENT="*" />
  <alto:String ID="00000.0.1.4.1" STYLEREFS="CHAR" HEIGHT="51" WIDTH="23" HPOS="616" VPOS="108" CONTENT="*" />
  <alto:String ID="00000.0.1.4.2" STYLEREFS="CHAR" HEIGHT="32" WIDTH="13" HPOS="641" VPOS="127" CONTENT="*" />
  <alto:String ID="00000.0.1.4.3" STYLEREFS="CHAR" HEIGHT="29" WIDTH="23" HPOS="658" VPOS="129" CONTENT="*" />
  <alto:String ID="00000.0.1.5.0" STYLEREFS="CHAR" HEIGHT="31" WIDTH="24" HPOS="695" VPOS="128" CONTENT="*" />
  <alto:String ID="00000.0.1.5.1" STYLEREFS="CHAR" HEIGHT="31" WIDTH="18" HPOS="722" VPOS="129" CONTENT="*" />
```

