# USING CUSTOMISED IMAGE PROCESSING FOR NOISE REDUCTION TO EXTRACT DATA FROM EARLY $20^{\text {TH }}$ CENTURY AFRICAN NEWSPAPERS 

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Johannesburg,
Declaration ..... 5
Abstract ..... 6
Acknowledgements ..... 7
Accompaniments ..... 8
MATLAB ${ }^{\text {® }}$ Files ..... 8
R File ..... 8
List of figures ..... 9
List of tables ..... 13
Abbreviations ..... 14

1. Introduction ..... 15
1.1 The Objective ..... 15
1.2 The Document Processing Pipeline and Image Noise ..... 16
1.2.1 The Document Processing Pipeline ..... 16
1.2.2 When Conversions Fail ..... 19
1.2.3 An exploration of noise ..... 20
1.2.4 Investigating a Noise Reduction Technique ..... 22
1.3 The Concepts ..... 24
1.3.1 Maximally Stable Extremal Regions ..... 24
1.3.2 Machine Learning Classifiers ..... 25
1.3.3 Levenshtein Distance algorithm for approximate text matching ..... 26
1.4 Resources and Tools used ..... 27
1.4.1 African Newspapers Database ..... 27
1.4.2 OCR Processing Tool ..... 27
1.4.3 MATLAB ${ }^{\circledR}$ ..... 27
1.5 Organisation of dissertation ..... 29
2. Background Review ..... 30
2.1 Historical document pre-OCR image processing ..... 30
2.2 Maximally Stable Extremal Regions (MSER) for Text Detection ..... 32
2.2.1 MSER in Scene Text Detection ..... 32
2.2.2 MSER with classifiers ..... 33
2.2.3 Custom Applications ..... 34
3 Technique and Testing Methodology ..... 36
3.1 Technique ..... 36
3.1.1 Classifier Identification Process ..... 37
3.1.2 Processed Image Dataset Generation ..... 40
3.1.3 OCR Process ..... 42
3.2 Testing Methodology ..... 43
3.2.1 Data ..... 43
3.2.2 Methodology ..... 47
3. Results Analysis ..... 51
4.1 Initial Test Run Results ..... 51
4.2 Investigations ..... 54
4.2.1 Broken Characters ..... 55
4.2.2 Misread Layout ..... 62
4.3 The Classifiers ..... 64
4.3.1 Ensemble Bagged Trees ..... 65
4.3.2 Cubic KNN ..... 69
4.3.3 Post-Classifier-Selection ..... 70
4.4 The effect on noise ..... 70
4.4.1 Ink bleed-through ..... 70
4.4.2 Ink flecks ..... 71
4.4.3 Ink blackouts ..... 73
4. Conclusions ..... 74
5.1 Future Recommendations ..... 74
5.1.1 Further classifier improvement ..... 74
5.1.2 Classification for layout elements ..... 74
5.1.3 Identify elements for restoration ..... 75
5.2 Summary Conclusions ..... 78
5. References ..... 80
Appendix A ..... 84
Appendix B ..... 199
B. 1 Original Images before processing was applied ..... 199
B. 2 Processed images ..... 212
Appendix C ..... 225
C. 1 MATLAB ${ }^{\circledR}$ code files ..... 225
C. 2 R code file ..... 229
Appendix D ..... 232
Appendix E ..... 236

## Declaration

I declare that this research report is my own unaided work. It is being submitted to the Degree of Master of Science to the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination to any other University.
(Signature of Candidate)
day of
year


#### Abstract

The images from the African articles dataset presented challenges to the Optical Character Recognition (OCR) tool. Despite successful binerisation in the Image Processing step of the pipeline, noise remained in the foreground of the images. This noise caused the OCR tool to misinterpret the text from the images and thus needed removal from the foreground. The technique involved the application of the Maximally Stable Extremal Region (MSER) algorithm, borrowed from SceneText Detection, and supervised machine learning classifiers. The algorithm creates regions from the foreground elements. Regions are classifiable into noise and characters based on the characteristics of their shapes. Classifiers were trained to recognise noise and characters. The technique is useful for a researcher wanting to process and analyse the large dataset. They could semiautomate the foreground noise-removal process using this technique. This would allow for better quality OCR output, for use in the Text Analysis step of the pipeline. Better OCR quality means less compromises would be required at the Text Analysis step. These concessions can lead to false results when searching noisy text. Fewer compromises means simpler, less error-prone analysis and more trustworthy results. The technique was tested against specifically selected images from the dataset which exhibited noise. It involved a number of steps. Training regions were selected and manually classified. After training and running many classifiers, the highest performing classifier was selected. The classifier categorised regions from all images. New images were created by removing noise regions from the original images. To discover whether an improvement in the OCR output was achieved, a text comparison was conducted. OCR text was generated from both the original and processed images. The two outputs of each image were compared for similarity against the test text. The test text was a manually created version of the expected OCR output per image. The similarity test for both original and processed images produced a score. A change in the similarity score indicated whether the technique had successfully removed noise or not. The test results showed that blotches in the foreground could be removed, and OCR output improved. Bleed-through and page fold noise was not removable. For images affected by noise blotches, this technique can be applied and hence less concessions will be needed when processing the text generated from those images.


## Acknowledgements

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## Accompaniments

This document is expected to be accompanied by 1 CD which includes a copy of the MATLAB ${ }^{\circledR}$ code files used to carry out the research, and the R code file used to do the text comparisons. The code from these files can also be found in Appendix C.

## MATLAB ${ }^{\circledR}$ Files

The MATLAB ${ }^{\circledR}$ files can be run in the MATLAB ${ }^{\circledR}$ program. A trial version of MATLAB ${ }^{\circledR}$ can be downloaded from:
https://www.mathworks.com/programs/trials/trial_request.html
The required packages can be downloaded at:

- Image Processing Toolbox:
http://www.mathworks.com/products/image/
- Computer Vision System Toolbox:
http://www.mathworks.com/products/computer-vision/
- Statistics and Machine Learning Toolbox:
http://www.mathworks.com/products/statistics/
There are three files:

1) GenerateMSERs.m - includes code to generate MSERs from images
2) ClassifyMSERs.m - includes use of a classifier to determine if an MSER is noise or character.
3) ProcessNewlmages_RemoveNoiseElements.m - includes code to create new images by removing noise MSERs from the original images.

## R File

The R file can be run in RStudio ${ }^{\circledR}$. RStudio ${ }^{\circledR}$ can be downloaded for free from:
https://www.rstudio.com/products/rstudio/download/
There is one file: Compare_OCR.R - used to return Levenshtein distance algorithm result from the comparison of two texts. Requires the installation of package readr. The instruction is included in the script: install.packages("readr").

## List of figures

Figure Page
1.1 Document Processing Pipeline ..... 17
1.2 Image containing noise ..... 18
1.3 OCR output of figure 2 ..... 18
1.4 Example of ink splatter ..... 20
1.5 Example of ink bleed-through ..... 21
1.6 Example of blackout due to a page fold ..... 21
1.7 Original vs Processed Image ..... 23
1.8 MSERs created after inverting the original image ..... 24
3.1 MSER file record structure ..... 37
3.2 Classifier identification process ..... 38
3.3 MSER Ellipse ..... 38
3.4 MSER process with the evaluation page ..... 41
3.5 Noise Removal Process ..... 42
3.6 OCR Process ..... 43
3.7 Improvement ratio of OCR output ..... 46
3.8 Manual Transcription will produce the test-text ..... 47
3.9 OCR text from original images ..... 49
3.10 Generate OCR text from processed images ..... 50
4.1 Confusion matrix of test run for African Standard ..... 52 Newspaper
4.2 Results of test run for African Standard Newspaper ..... 52
4.3 Confusion matrix of first test run for Gold Coast Leader ..... 53
4.4 Gold Coast Leader results after first test run ..... 54
4.5 Image 1 from $1^{\text {st }}$ Gold Coast test 1 ..... 54
4.6 Image 6 from $1^{\text {st }}$ Gold Coast test 1 ..... 55
4.7 Broken characters ..... 55
4.8 Decrease in quality after processing ..... 56
4.9 Gold Coast Leader's second run to confirm image 1s ..... 57 problem
4.10 Confusion matrix for classifier trained on images 1,2,4,6. ..... 58
4.11 Training data consisted of images 1, 2, 4 and 6 ..... 58
4.12 Confusion matrix for classifier trained on image 1 only ..... 59
4.13 Training set consisted of image 1s MSERs only ..... 60
4.14 Image 1 training data on same issue ..... 61
4.15 Paragraphs OCR'd for Image 6 ..... 62
4.16 Post-processed image 6, Gold Coast Standard Run 1 ..... 63
4.17 Example of decision tree ..... 65
4.18 Simplified ensemble versus single function ..... 66
4.19 Feature dominance across all trees for all EBTs ..... 67
4.20 Classification using KNN ..... 69
4.21 Image 9 original vs processed ..... 71
4.22 Image 11 original vs processed ..... 72
4.23 Image 2 original vs processed ..... 72
5.1 Content elements and Line elements in image 6 ..... 75
5.2 Blackout example from image 1 - 91182 pixels ..... 76
5.3 Blackout example from image $4-33050$ pixels ..... 76
B1. 1 Evaluation image 1 - The Gold Coast Leader ..... 199
B2 Evaluation image 2 - The Gold Coast Leader ..... 199
B3 Evaluation image 3 - The Gold Coast Leader ..... 199
B4 Evaluation image 4 - The Gold Coast Leader ..... 200
B5 Evaluation image 5 - The Gold Coast Leader ..... 200
B6 Evaluation image 6 - The Gold Coast Leader ..... 201
B7 Evaluation image 7 - The African Standard ..... 201
B8 Evaluation image 8 - The African Standard ..... 202
B9 Evaluation image 9 - The African Standard ..... 202
B10 Evaluation image 10 - The African Standard ..... 203
B11 Evaluation image 11-The African Standard ..... 204
B12 Evaluation image 12 - The African Standard ..... 204
B13 Evaluation Image 13 - The Gold Coast Leader ..... 205
B14 Evaluation Image 14 - The Gold Coast Leader ..... 206
B15 Evaluation Image 15 - The Gold Coast Leader ..... 207
B16 Evaluation Image 16 - The Gold Coast Leader ..... 208
B17 Evaluation Image 17 - The Gold Coast Leader ..... 209
B18 Evaluation Image 18 - The Gold Coast Leader ..... 210
B19 Evaluation Image 19 - The Gold Coast Leader ..... 211
B20 Processed Evaluation image 1 - The Gold Coast Leader ..... 212
B21 Processed Evaluation image 2 - The Gold Coast Leader ..... 212
B22 Processed Evaluation image 3 - The Gold Coast Leader ..... 212
B23 Processed Evaluation image 4 - The Gold Coast Leader ..... 213
B24 Processed Evaluation image 5 - The Gold Coast Leader ..... 213
B25 Processed Evaluation image 6 - The Gold Coast Leader ..... 214
B26 Processed Evaluation image 7 - The African Standard ..... 214
B27 Processed Evaluation image 8 - The African Standard ..... 215
B28 Processed Evaluation image 9 - The African Standard ..... 215
B29 Processed Evaluation image 10-The African Standard ..... 216
B30 Processed Evaluation image 11-The African Standard ..... 217
B31 Processed Evaluation image 12 - The African Standard ..... 217
B32 Processed Evaluation Image 13 - The Gold Coast Leader ..... 218
B33 Processed Evaluation Image 14 - The Gold Coast Leader ..... 219
B34 Processed Evaluation Image 15 - The Gold Coast Leader ..... 220
B35 Processed Evaluation Image 16 - The Gold Coast Leader ..... 221
B36 Processed Evaluation Image 17 - The Gold Coast Leader ..... 222
B37 Processed Evaluation Image 18 - The Gold Coast Leader ..... 223
B38 Processed Evaluation Image 19 - The Gold Coast Leader ..... 224
C1.1 Code Extract - GenerateMSERs.m ..... 225
C1.2 Code Extract - ClassifyMSERs.m ..... 227
C1.3 Code Extract - ..... 228
ProcessNewlmages_RemoveNoiseElements.m
C2.1 Code Extract - Compare_OCR.R ..... 231
E1 OCR Text extracted from image 1 from 1st Gold Coast ..... 236 paper test run
E2 OCR Text extracted from image 1 from 1st Gold Coast ..... 237 paper test run
List of tables
Table ..... Page
1.1 Classifiers available in MATLAB® grouped by type ..... 28
3.1 Ratios of Accuracy, Precision and Recall Equations ..... 40
3.2 Levenshtein distance results ..... 46
4.1 EBT Observaions ..... 68
A1 Comparison of correct text against the OCR output ..... 84
A2 Comparison of OCR text from original images against the OCR ..... 89 text from final processed images
D1 Basic statistics of the Major Axes feature across all images and ..... 232 training files
D2 Basic statistics of the Minor Axes feature across all images and ..... 233 training files
D3 Basic statistics of the Pixel Count feature across all images ..... 234 and training files
D4 Basic statistics of the Orientation feature across all images and ..... 235 training files

## Abbreviations

BLR - Baysian Logistic Regression
EBT - Ensemble Bagged Tree
KNN - k-Nearest-Neighbours
MSER - Maximally Stable Extremal Region
OCR - Optical Character Recognition
SVM - Support Vector Machines
SWT - Stroke Width Transform

## 1. Introduction

Helen is a historian. She is responsible for a large collection of historically significant newspapers. They are old but they are important. They are also numerous. Anyone who wishes to pull useful data from these documents has a mammoth task before them.

These papers can be scanned into a computer. From this point, multiple copies can be made and read without physical degradation to the actual paper. This is helpful for preservation but does not make the paper all that useful yet. They are still only readable by a human because the documents have been scanned in as images, not text. It is equivalent to having taken photographs of the papers and browsing them on a computer. But, what if Helen wanted to perform word searches on these images? This is impossible without processing the images into text.

The scanned image can go through a conversion process called Optical Character Recognition (OCR). This process tries to recognise characters in the image and generate text from the characters it finds.

This text can then be searched and analysed. However, this conversion may not be seamless. Some elements in the image do not represent characters, numbers or punctuation. There may be marks on the page such as ink blots and page folds. These are easily ignored by the human eye, but not by the OCR tool. These marks are called image noise. Noise can cause errors in OCR output. Ideally these noisy elements should be removed from the image before it goes through OCR processing.

### 1.1 The Objective

This research will evaluate the application of Maximally Stable Extremal Regions (MSERs) and supervised machine learning algorithms for noise removal from historical document images.

The document images are digitally scanned images of newspapers from the African Newspapers database. This database is a collection of early twentieth century newspapers which have been scanned in and made available by Readex [1]. The unique noise in these newspaper images causes degraded OCR output.

The technique will allow noise to be removed from the images before OCR processing. This should lead to more correctly generated OCR output.

The following sections explain the concepts mentioned herein. Firstly, the background on the Document Processing Pipeline (DPP) is discussed and the research is placed into context of the DPP. This is important as the technique is not a stand-alone function but forms part of a set of steps. Changes in steps have downstream impact. This research will evaluate whether the impact on the pipeline is positive or negative and the magnitude of impact. The DPP context also influenced the testing mechanism chosen to evaluate the technique, which is discussed in section 3.2.

The pipeline and the need for image noise reduction in the Image Processing step of the pipeline, is discussed below. This is followed by an explanation of the technique.

### 1.2 The Document Processing Pipeline and Image Noise

### 1.2.1 The Document Processing Pipeline

The DPP is the sequence of steps required to convert images into text for analysis. There are three main steps:

1) Image Processing
2) OCR Processing
3) Text Analysis

This pipeline converts the scanned-in image of a document into text that a computer can 'read'. The pipeline is illustrated in figure 1.1.

The Image Processing step involves any changes required to the image, to improve readability before it can continue being OCR'd.

The focus of this paper is on a technique to reduce the number of unwanted noise elements in the images. The pink box in figure 1.1 indicates where this technique fits into the pipeline.


Figure 1.1: Document Processing Pipeline

There could be a number of problems affecting the quality of an image:

1. They are too dark or light.
2. There is little contrast between the text and the background.
3. The image contains noise. Noise can constitute anything which distorts reading of the text. Noise can include blotches and flecks which appear in the image. These can be seen in figure 1.2.

After the Image Processing step, once the image has been improved, it can go through OCR. OCR software tries to recognise the parts of the image that represent text. The output of the OCR will be text. Before analysis can be performed on the text from the image, it is run through a standardisation process. The Text Standardisation process is indicated by the blue box in figure 1.1. The process involves removing minor anomalies and normalising the text.

Standardisation is important because every level and type of text analysis involves pattern matching. In the case of this research, simple anomalies such as additional whitespace or the case of the letters don't offer insight into the data, however, their presence can influence can cause false negatives when the texts are testing for matches. To avoid this, any text being matched should go through the same Text Standardisation process to avoid matches not occurring due to these minor differences.

## Gentiemen! for better or for worse, even you have selected me to be for the nonce your president. "As such I trust you'will

Figure 1.2: Image containing noise

```
Gentlemei\\!! \xa3 or better or for worse,
even?you .have selected me to be for the
nonce?your president. As such I trust you,will
```

Figure 1.3: OCR output of figure 1.2

For example, finding every instance of the word "newspaper", in a piece of text, may be affected by different cases of letters, like the word "Newspaper", with a capital ' $N$ '. It could also be affected by odd punctuation (either intentionally placed into the word by the writer or unintentionally read out by the OCR software) e.g. "news-paper". Ideally all three instances of the word should be returned on searching for "newspaper". Rather than coding rules for all types of anomalies in the analysis software, text goes through a standardisation process.

After standardisation, text analysis techniques can be performed. This can be simple searching or more complicated analysis like Natural Language Processing.

Standardisation can vary on different DPPs. It is important that the same standardisation is applied to texts that will be compared to each other at the end of a DPP. The standardisation code in this research performed the following corrections to the text:

1) Removal of additional whitespace and line breaks.
2) Conversion of all letters to lowercase.
3) Removal of all punctuation.

Standardisation cannot overcome more complicated anomalies which result from noise in the image. This leads to researchers having to often manually filter out the anomalies and correct them one by one and/or accepting high error margins in text analysis results. Hence noise removal is needed at the Image Processing step so that the noise does not filter through to the text.

OCR software tries to read the text in an image. It does this by looking for characteristics that match alphabetic or numerical characters, and punctuation in the image. Refer now to figures 1.2 and 1.3. Figure 1.2 is an example selected from the African Newspapers database. The OCR output from figure 1.2 is shown in figure 1.3. One can see that the noise affected the OCR tool's ability to suitably convert some of the letters into the correct text.

### 1.2.2 When Conversions Fail

Failed OCR conversions lead to an inhibited ability to further process the text. The onus is on the text analysis step to cater for the noise that has come through from the previous (OCR) step. Sometimes this is impossible without compromising the text analysis to a large extent. Take, as an example, trying to find paragraphs of matching text. If one of the images produced the above output - as seen in figure 1.3, and another image containing the exact same text but from a different document, produced OCR output with different noise, then they will have some level of similarity. This leads to the question of what percentage of resemblance is enough to consider two texts to be considered similar and what percentage of similarity is required to determine a match. Ideally these two texts would match exactly but due to noise, they will only be returned from analysis as similar. If there is too much noise, they may not return as a match at all. This result is a false negative. This problem could become quite complex when there are real partial text matches involved. There may be articles which share parts of their text but are not entirely complete copies of each other. The question then becomes, "are these two articles real-partial-matches or are they completematches but return as a partial match due to the noise content in the text?" Removing noise will simplify the downstream text analysis step.

### 1.2.3 An exploration of noise

OCR on historical newspapers is already difficult for various reasons. These reasons include variance in typefaces (the font style), size and language [2].

Image noise adds further complications. Removing the noise elements from the images, will lead to less misinterpretation by the OCR software. Downstream processes, like search or Natural Language processing, will benefit from the better OCR and it means less 'work-arounds' later, for these processes [3].

Historical newspapers have their own 'natural' noisy elements. Noise in the form of ink splatter, blackouts (folds in the paper and smudges or blotches which completely cover the text underneath them) and bleed-through (which is ink seeping through from the adjoining page) are common. The OCR software tries to interpret these instead of ignoring them. This leads to bad quality OCR output. See figures 1.4, 1.5 and 1.6 for examples of noise from the dataset.

Many years of work have gone into recognising many languages and fonts. Despite this, OCR software does not 'know' how to ignore non-text elements.

Modern OCR tools are based on neural networks. Hence they are taught to recognise the distinguishing features of letters, numbers and punctuation. This includes the ability to work on different fonts and languages. The Tesseract OCR application is capable of recognising many different fonts and languages. It therefore seems likely that OCR neural networks could be taught to recognise noise too and remove or ignore it at the OCR step. In this research paper, it has been added to the image processing step, due to the uniqueness of noise.


Figure 1.4: Example of ink splatter

## ways unique The reader can follow with

 ense the' whole of $a$ some what compligated se ries of marches and fights. As is well known, the rebels ultimately evacuated Lubwa's and fled acress the Nile, whither they hadeto tbe pursued, Macdonald had to undertake at the same time the suspresion of the revolting Mahommedah nitives under Mranga, and he hadia hard job of it in the seven months that elapsed béfôre he wàt'able to piece together his expedition again and tairt for the north. The ability displayed by the leaders of the Soudanese was indisputable For instance, they evacuated Lubiost with tas mothease as if there had been no investing force within miles. Their intention was known beforehand, as Major Austin shows :- meditadina a utilisfing the-4howfor this purpose to cross to
certain from what peasy of the Sobat region in the following yed Macdonald would never hâve got through the floóds and swamps in the rainy season.
Whe muthor's story of the doings of his own column are of course, absolutely authentic
 country he fraverséd and its inhabitants, especially the magnificent but unreliable Turkana, who gave him much trouble on the way back. One finds that the actual hardships suffered by the Austin column before their arrival at Rudolf do not read so distressigigly in the andiblys reteorpect as they did in the newspaper stories of the time. But he had not tis sorrows to seek, and it is plain from his narrative that if "occupation" of the whole of Uganday is eve decfact upon
 Thaps also with the troops that ane serî after them. Major: Austin quotes ${ }^{\circ}$ with pride a

Figure 1.5: Example of ink bleed-through


Figure 1.6: Example of blackout due to a page fold

Unlike characters, noisy elements are those elements which do not have consistent, definable characteristics. Noise is often noise because it does not have explicitly obvious shape features.

Other elements may be considered noise by choice. Some image elements may be unwanted or unnecessary in later processing. Lines on the image, for example, maybe considered to be noise by the researcher. Their shape is defined but their presence in the image is undesirable. What qualifies as noise can be different depending on the use of the scanned documents. It may be that one researcher would like to remove all lines from the documents, and considers them noise, whereas another may not.

Not only does noise come in varying (defined and undefined) shapes and sizes but the elements considered to be noise can also be different depending on the context of use. For this reason, this dissertation suggests that noise removal should occur in the image processing step. This way, the noise elements can be correctly selected for the context of use.

The technique takes the approach of using machine learning to provide customised noise removal, which will lead to better OCR output.

### 1.2.4 Investigating a Noise Reduction Technique

Figure 1.7 shows an example of the technique demonstrated in this paper. It is a picture of an original noisy image versus its processed, cleaned, twin. Table A1, Appendix A, column two shows the OCR output of the original image. It also shows the output of the processed image in column three. The first column in the table shows the test-text. This is the perfect text version against which both the outputs were compared.

Both OCR outputs are compared to the test-text using a similarity algorithm. This algorithm is explained in the next section. The result was a $46 \%$ improvement in correctness from the processed images OCR text.


Figure 1.7: Original vs Processed Image

In order to achieve better OCR output, it is important to remove noise at the Image Processing step. The next section will explain the technologies used in the noise removal technique investigated in this paper. The technique makes use of MSER features and supervised machine learning classifiers. The similarity algorithm used to test the texts is the Levenshtein algorithm. It is also explained since it forms part of the testing of the technique.

### 1.3 The Concepts

This section contains explanations of the algorithms/ techniques used in the method investigated in this paper.

### 1.3.1 Maximally Stable Extremal Regions

The Maximally Stable Extremal Regions (MSERs) algorithm is a detection algorithm which is used to identify 'blobs' of pixels which have the same level of intensity, in an image. The intensity, in the context of binary images (black and white), is the contrast of a region against the background. As seen in figure 1.8, various regions show up against the black background of an inverted image (black and white pixels swopped around).


Figure 1.8: MSERs created after inverting the original image

These 'blobs' are referred to as regions. The regions can be found by applying different levels of thresholding to the images and reviewing which regions remain consistent throughout the testing of different threshold values.

Thresholding is the process of separating pixels by a given value - the threshold level. Pixel values are either below or above the threshold value. If one applies different threshold levels to the image, different regions will be formed. Local maxima/minima of the regions will form at different threshold levels. The maxima/minima are the uppermost and lowermost values that one would see if the intensity values were plotted on a graph. The regions which remain the same and have consistent local maxima, throughout the application of varying thresholds, are the maximally stable extremal regions. Minimal regions are found by applying the process to an image that has had its intensity values inverted [4].

The MSER algorithm was designed to find matching features between images of the same content, but from different angles [4]. However, it also works well, on a single image.

The technique is not inhibited by skew text, and as it is not an OCR process, it is also language and font-size independent.

Regions have certain properties such as orientation, pixel count and the major and minor axes of the ellipse which expands from the centre of a region [5]. To produce the result image in figure 1.8, these properties were used to train a classifier. The resulting classifier was able to remove a lot of noise with a few errors. The classifier algorithm can likely be improved upon by using more features in future. The technique is illustrated in detail in Chapter 3.

Although usually used on grayscale images, the MSER algorithm is useful for dividing up the foreground of a binary image, into regions. Regions representing noise can be wholly removed from the image.

### 1.3.2 Machine Learning Classifiers

Classification is a pattern-recognition problem. In machine learning, it is the process of placing data into certain categories. These categories are determined by the percentage of the appearance of features. The features are properties of
the dataset. A classifier's job is to map an observation/record into a category, according to the value it has for each feature [6].

There are supervised and unsupervised classifiers. Supervised classifiers are taught using examples which have been correctly categorised. It can classify new data, based on what it learnt from the examples provided. Unsupervised classifiers are not given examples to learn from. An unsupervised classifier will sort the data into categories it discovers. They will be the categories most natural to the data. This is useful for discovering the natural state of the data. These natural categories, however, may not directly map into the categories one needs for processing [6-7].

This study will make use of supervised classifiers. These get trained by using a sample set of correctly classified records. All available classifiers, in the MATLAB ${ }^{\circledR}$ tool describer below, were trained. This allowed for a classifier to emerge from the available set rather than pre-selecting a classifier, or a set of classifiers, by making assumptions about the data.

### 1.3.3 Levenshtein Distance algorithm for approximate text matching

In order to test the quality of the OCR output, before and after applying the image processing, an approximate text (string)/ fuzzy text (string) matching algorithm is required. The algorithm in use will be the Levenshtein distance algorithm. The Levenshtein algorithm is a type of Edit Distance Algorithm which gives an indication of how different two pieces of text (or strings) are. The number that the algorithm outputs equates to the number of changes (insertions, deletions and substitutions) that would be needed in order for the first string to be changed into the second [8]. OCR output, from images which have gone through the MSER and classifiers processing, will be compared to a manually created correct OCR test set. OCR output for images which have not had the process applied will also be compared to the test output. This comparison provides an objective measurement of any improvement generated from the proposed technique.

Note that before the text gets processed by the Levenshtein algorithm, it will go through normalisation. Normalisation means that the text will be converted to lowercase and all punctuation and additional whitespace (anything longer than one character of whitespace) will be removed.

### 1.4 Resources and Tools used

The research required the use of a dataset of images, an OCR processing tool to convert the images to text, and a tool with which the MSER generation and machine learning classifiers training and usage could be performed - namely MATLAB ${ }^{\circledR}$.

### 1.4.1 African Newspapers Database

The set of images used were selected from the World Newspaper Archives set of African Newspapers [1]. The specific sample selected can be viewed in Appendix B. The images were chosen for their poor OCR output quality.

### 1.4.2 OCR Processing Tool

The Tesseract-OCR tool used in the research was started by HP and is currently supported by Google. It has been used by many applications and still undergoes active development [9].

- Tesseract is downloadable as a binary file.
- It is open-source.
- Free to use under the Apache 2.0 license.
- The latest stable version, 3.04.01 was used.


### 1.4.3 MATLAB ${ }^{\circledR}$

The MATLAB ${ }^{\circledR}$ product (R2016a) along with the Image Processing Toolbox, the Computer Vision System toolbox and the Statistics and Machine Learning Toolbox were used in this study [10-13].
The Classification learner has twenty-two classifiers. All of the classifiers were trained in order to comparatively select the best one. The classifiers available are listed in Table 1.1.

Table 1.1: Classifiers available in MATLAB ${ }^{\circledR}$ grouped by type.

| Decision <br> Trees | Discriminant Analysis | Support <br> Vector <br> Machines <br> (SVM) | Nearest <br> Neighbour | Ensemble |
| :---: | :---: | :---: | :---: | :---: |
| Complex <br> Tree | Linear <br> Discriminant | Linear SVM | Fine knearest neighbour | Boosted Trees |
| Medium Tree | Quadratic Discriminant | Quadratic SVM | Medium knearest neighbour | Bagged Trees |
| Simple Tree |  | Cubic SVM | Course knearest neighbour | Subspace Discriminant |
|  |  | Fine <br> Gaussian <br> SVM | Cosine knearest neighbour | Subspace knearest neighbour |
|  |  | Medium <br> Gaussian <br> SVM | Cubic knearest neighbour | RUSBoosted |
|  |  | Course <br> Gaussian <br> SVM | Weighted knearest neighbour |  |

### 1.5 Organisation of dissertation

This chapter reviewed background knowledge about the DPP It explained that the noise removal forms part of the image-processing step. A review of the techniques and tools used was presented.

The rest of this paper will be organised into the following sections. Chapter 2 will review the current literature. It will discuss some contributions to the current historical DPP and the use of MSER in Scene Text Detection. The influence of the current work on this research will be indicated.

Chapter 3 will illustrate the technique itself and the methodology used to test the technique. Chapter 4 will describe the results found and Chapter 5 will discuss further direction for the current research. The paper will conclude with Chapter 6.

There are two Appendices for this paper. Appendix A contains a table which indicates OCR comparisons generated from pre and post image noise removal, to the corrected text. Appendix B holds the images used in the study.

## 2. Background Review

This section contains reviews of research on historical document image processing as well as research about the use of the MSER algorithm in natural scenes. This includes work that uses MSER properties together with machine learning classifiers. The final reviews look at custom techniques which were developed for a specific subset of natural scenes.

### 2.1 Historical document pre-OCR image processing

Historical documents experience degradation. They degrade for various reasons. If stored incorrectly, they can be affected by humidity and pests [14-15]. Old newspapers are especially fragile - they can discolour and become brittle [16]. Much of the research focus for historical documents has been on binerisation due to degradation. Binerisation of an image involves separating the image into black and white. Generally this distinguishes background from foreground. In the case of newspapers, the characters and noise form part of the black foreground. The background is white. Binerisation is one way to solve some of the noise problems. The focus of this research will be on noise physically present on the original newspaper and noise created from the scanning process.

Stamatopoulos [17] and Gupta et al [18] conducted research on processing techniques with consideration of the entire processing pipeline - from the original image to the final OCR text output.

Stamatopoulos [17] researched and developed techniques for border removal, de-warping, text lines segmentation and character segmentation. The techniques were performed on numerous historical documents but no examples are shown. The amount or type of noise in the images is also unclear [17]. Despite missing clarity, this research brought about an important consideration. All algorithms selected to process images into text, need to be considered together and not in isolation. With regards to the African Newspapers dataset, there are many newspapers with broken/partial border lines. These partial lines cause bad OCR output. Tesseract OCR removes borders before performing article segmentation. It does not recognise these partial borders and they get processed into bad text.

Gupta et al [18] reviewed different binerisation algorithms. Some of these were pre-existing and some were improvements of those existing algorithms. They
also review some post-binerisation processing methods. They consider the entire processing pipeline. Each processing step affects the one after it. They found that some pre- and post-processing algorithm combinations worked better together than others. Gupta et al tried different combinations of algorithms to see which ones worked better together in the pipeline [18]. Sometimes customised combinations may yield better results than a generic one for a certain dataset. This research, on MSER and classifiers, will test and compare different classifiers. Different MSER property combinations will also be tested. With each combination, the OCR output will be the evaluation mechanism. OCR output is tested as it is the final output of the entire pipeline.

Satange et al [15] highlight the challenges of scanning historical documents. Scanners can introduce noise into the image, especially noise created by light (or darkness). The authors review how problems occurring during this process affect binerisation of the image. The focus is on noise introduced during scanning rather than noise already present in the document [15]. This research paper will look at how to remove noise which was physically present on the newspaper and is now in the scanned images. It will also work for some noise introduced during scanning, although this noise is not the main focus. There will be other types of noise not addressed by this research, which will still impact the OCR quality. An example of this would be black marks which completely cover sections of text. This was illustrated in section 1.2.3, figure 1.6. It is not possible to correct or remove the blackouts to reveal the text that once was. It may be possible, later in the pipeline, to recover some of this data using natural language processing to guess the missing text.

Church [19] worked on processing a historical French newspaper. He found that he could use a better binerisation algorithm to improve output. The results however, were unsatisfactory. He suggested manual correction of the output to compensate [19]. Post-processing might save some of the output but better image pre-processing could fix some of the issues at source. It was this research that brought about the idea that there must be other ways to approach noise removal from historical documents. Binerisation is very important but it is not enough. The African Newspapers database images are already binerised and of high quality, so further binerisation does not lead to improved images or better
quality OCR. Other noise removal techniques are needed to improve OCR output.

### 2.2 Maximally Stable Extremal Regions (MSER) for Text Detection

### 2.2.1 MSER in Scene Text Detection

MSER is commonly used for text detection in natural images, also referred to as Scene Text Detection. MSER is an algorithm which separates the foreground elements of an image. Figure 1.8, referred to in section 1.3.1, shows how an image foreground is made up of many MSERs.

Natural images are pictures of scenery, road signs or buildings - images of 'natural' environments. The text is on an element in the scene such as a notice board or sign. The text could also be superimposed onto a scenic image. Natural images are full of noise. Text in natural images has certain properties. These properties include consistent sizes and shapes [20]. Historical documents have noise which is 'natural' to them. Ink splatter and extra lines where the paper was folded, are common in the African Newspapers dataset. When MSER is applied to the images, it is easy to see how the shapes of those splatters and folds are different to the character regions. It is possible to make use of the shape properties to distinguish noise from characters.

Images taken on mobile phones are a particularly pervasive area of Scene Text Detection research. Chen et al [21] and Soman and Sindhu [22] used MSERs combined with the Canny edge detection algorithm, to help with slight blurriness in the images. Stroke Width Transform (SWT) helps separate the text elements from the rest of the image [21-22]. SWT can be a useful feature in natural images. Text will usually keep a uniform stroke width throughout, as opposed to other elements in a scenic image [20]. This research demonstrated the use of the MSER algorithm to find text. It also showed how MSER properties coupled with other algorithms can be used to distinguish noise from text.

Neumann and Matas [23] apply their method to two databases, each containing various natural images. They filter out regions in iterations, using more complex features, at each iteration. Simpler features include: the region area; made up of the number of pixels in the region; and the properties of the bounding box, which
encapsulates the region. Complex features include properties like convex hull of the region and number of holes present in a region [23]. This research demonstrated the wide variety of shape properties available for use.

Wiwatcharakoses and Patanukhom [24] expand the research into scenes containing text printed in languages other than English. The dataset includes nine languages, some of which are Arabic, Chinese, English, Japanese, Korean, and Thai. This is a natural progression as MSER detection is robust to writing direction, styles and alignments. It works at the image level rather than a language level, which is where OCR and Natural Language Processing perform. The team make use of a number of features such as region pixel count, colour, major and minor axes and stroke width. With the authors' method, regions which could contain text receive a high or low confidence rating by fulfilling certain property requirements. Low confidence regions are disposed of as noise. [24]. Their paper also demonstrates MSER property usage. In addition, the authors show an important advantage of using MSER for noise detection, which is its robustness. It is not affected by skew text or varying font and layout styles.

### 2.2.2 MSER with classifiers

The use of machine learning classifiers was a natural progression in Scene Text Detection. The classifiers can use the array of available MSER properties to categorise MSERs. It is useful to train classifiers to filter out unwanted regions from images. The classifiers use the training data provided to determine the best algorithm. This often leads to a more customised algorithm, better suited to the data. This can be better than making rules based on assumptions about the data. It could take a person a very long to manually create the complicated rules. The classifiers algorithms find the rules in the data with more efficiency and precision.

Various classifiers can produce varying results with different configurations of features. It is worth testing many classifiers with different combinations of training features. This is because the classifier output cannot be assumed as it is custom to the data.

The following authors show that there are various ways of using the MSER properties and different classifiers.

Nafla et al [25] propose a method which makes use of various classifiers. An AdaBoost classifier is trained to determine if regions should be combined into a cluster. They are combined according to whether they are adjacent or not. AdaBoost, created by Freund and Schapire, is an algorithm which boosts the performance of other algorithms, to get more accurate results [26]. A Support Vector Machine (SVM) decides if a cluster contains text or not. SVMs determine a stroke width value for a pixel. Pixels with consistent values, usually indicate text [20]. The method presented by the authors is clear but the example image used is very clean - there is very little noise present. There is no noise-impact testing mentioned and it's very difficult to tell the impact of improvement that the method makes to the image [25]. Use of a clean image cannot demonstrate a noiseremoval method well. The proposed method in this dissertation will clearly showcase the different types of noise for which the method is successful and not.
lqbal et al [27] performed a comparison of classifiers for scene/natural images. They found that Baysian Logistic Regression (BLR) performed the best on their selected features [27]. BLR is able to make predictions based on probabilities determined using Bayes Theorem, which calculates conditional probabilities and predicts whether a record of MSER property data is noise or not [28]. It is important to train many classifiers rather than assuming that only one is best for the selected training set. Because many of them use probability, they are heavily influenced by the training data and classifiers will perform better than others. For this same reason, it is also important to try different selections of training data. Some training sets can produce better results than other sets. Running experiments with different combinations of training data and classifiers helps to find the training set and classifier combination that produces the best results.

### 2.2.3 Custom Applications

Some researchers focused on a subset of natural images to develop customised approaches that work particularly well on that subset.

Greenhalgh and Mirmehdi [29] made use of MSERs and classifiers to find and recognise traffic signs in images. The authors tested three classifiers: SVM, MultiLayer Perceptron, and Random Forests. The Random Forest classifier was selected due to being the most accurate. Random Forests need a large training
set. The authors make use of generated training images to speed up the training data collection. Regions in the images are classified into circles, triangles, rectangles, or none of these (they form part of the background) [29].

The use of properties which are custom to a subset of images can provide more features to work with. This creates better results than a more generic approach. For example, images of traffic signs are a subset of natural images that have unique, distinct shapes. The shapes of the signs can make distinguishing traffic signs in images, much easier. A classifier trained on traffic signs will not work as well on any natural image but it will work very well for its specific purpose. In Greenhalgh and Mirmehdi's research, that purpose was categorising and reading natural images of traffic signs.

These published papers show that a variety of classifiers should be tested. Doing this finds the custom classifiers and feature combinations which work well for the dataset.

From these reviews, it was clear that a customised process for historical newspapers, using MSER and classifiers, could help with noise removal from those newspapers. Removing noise from the scanned in images of the newspapers, will lead to better OCR output.

One needs to consider how the output from the image processing, will affect the OCR quality. The testing of multiple classifiers and MSER features will allow for the optimal combinations to be found. The resulting combinations will be the customised processing which works best for the selected test newspaper images. Even though the image processing step is earlier on in the processing pipeline, the OCR output will be used to evaluate the application of the noise-removal technique described in this paper. This is because the impact on the full pipeline is important.

The background review presented the current state of how historical document images are currently processed. Binerisation has been the main focus in this area, in order to distinguish text in the foreground, from the background of an image. MSER technology in the Scene Text Detection field was examined. This led to the use of MSER data with some machine learning algorithms/classifiers. The next chapter illustrates this MSER and machine learning technique that was applied to the African articles dataset of historical newspaper images.

## 3 Technique and Testing Methodology

In this section the definition of noise will be discussed in detail. This includes the reason for placing noise removal at the Image Processing step and not at the OCR step of the pipeline. The steps of the technique will be listed and explained. The testing mechanism, using the Levenshtein algorithm as a test for OCR output improvement, is discussed last.

### 3.1 Technique

The technique involves the use of MSER characteristics and supervised machine classifiers. The classifiers make use of the orientation, pixel count, major axes and minor axes as the data features to feed into the classifiers algorithms. These features were selected as they are basic shape elements, from which other features can be built upon. Shapes can be compared to eachother when they are compared in terms of where they are in relation to a measurement (the axes), and a direction (the orientation). As the dataset is digital, the number of screen pixels in a shape can also be used for comparison. These basic features can be extracted from the MSERs and used to distinguish characters from noise.

The noise removal technique was applied to two datasets, selected from the African Newspapers database. The results are discussed in the next section. There were initially twelve images selected from two newspapers - The African Standard and The Gold Coast Leader. The technique was applied separately to each newspaper. In other words, the training data for a dataset from one newspaper was not mixed with training data from the other newspaper. This was to test the application process on different datasets.

The technique aims to produce better quality OCR text. OCR text is generated from both the original image set and the processed images. This OCR is tested for similarity against an equivalent set of text. This text is the test-text which represents the perfect text output. This is done using an algorithm which indicates by percentage how similar two texts are to each other. If the OCR text from the processed image could be more similar to the test-text than the OCR text from the original image, it would indicate an improvement in the OCR output, as a result of the noise removal. The techniques 3 processes/steps will now be explained in detail.

The steps are:

1) Classifier Identification
2) Processed Image Dataset Generation
3) OCR Generation

### 3.1.1 Classifier Identification Process

Each newspaper has its own style, layout and noise. For this reason, each newspaper will use a classifier which has been trained using data from that specific newspapers dataset. Figure 3.2 illustrates the Classifier Identification Process.

Training data is fed to the classifiers in the form of a training file. The training file is a collection of records. These records are MSERs and their properties. The record structure is illustrated in Figure 3.1.

| Region <br> Number | Image | Major <br> Axes | Minor <br> Axes | Orientation | Pixel <br> Count | Class |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |

Figure 3.1: MSER file record structure

Firstly, MSERs are generated from the images. Secondly, the properties of these MSERs are written into a file as records. These properties will be the features that are used to train the classifiers. The properties to be used are: orientation, number of pixels that make up the region, and the major and minor axes.

Orientation and the axes are calculated from the virtual ellipse around a region. If one were to draw an ellipse around a region, it would give them an idea of direction and shape. This is where the orientation and axes properties come from. They are extracted by measuring the direction and size of a 'virtual' ellipse around the region. The properties of the ellipse help differentiate the regions. The orientation is a value which represents the orientation of the line which goes from the centre of the X -axis to the major axis of the ellipse. The axes are the lines that go across from the shortest to the longest points of an ellipse. The visualised ellipse can be seen in figure 3.3.

$\int$ Extract Training Data

| Feature 1 | Feature 2 | Feature 3 |
| :--- | :--- | :--- |
| Value 7 | Value 2 | Value 3 |
| Value 4 | Value 5 | Value 6 |
| Value 7 | Value 8 | Value 9 |
| Value 70 | Value 11 | Value 12 |

$\int$ Train Classifiers


Figure 3.2: Classifier identification process


Figure 3.3: MSER Ellipse

Those records are then manually classified as Noise (N) to be cleared, or Characters/Text (C) which needs to remain in the image. The training file then contains several correctly classified MSER records from which the classifiers can learn.

Training data is split into a training subset and a testing subset. The testing set is what is used to check the correctness of the classifier's ability, after it has been trained. The classifier uses the training set to test its own accuracy. The testing set records are run through the classifiers algorithm(s). The resultant classes are compared to the expectant classes provided in the training file. The ratio of correct matches produces the accuracy result.

The training data will be used to train multiple classifiers. The most accurate classifier for a dataset was to be chosen as the selected classifier, as accuracy is the ratio of correctly classified elements to all the results, although the precision and recall were reviewed to ensure the classifier was not simply accurate but offered the best predictability.

- Accuracy refers to the ratio of correctly identified character and noise elements, out of all the elements in the result set.
- Precision refers to a stricter ratio of the number of elements correctly selected as characters out of all (correctly and falsely) character elements found.
- Recall indicates the percentage of elements that were identified as legitimate characters, from out of all the elements that should have been identified as characters.

These ratios can be calculated by looking at the confusion matrix of the classifier. The confusion matrix indicates the number of elements identified as:

1) true positives (correctly identified characters);
2) true negatives (correctly identified noise elements);
3) false positives (elements identified as characters but were actually noise);
4) false negatives (characters that were incorrectly identified as noise).

The ratio formulas for Accuracy, Precision and Recall can be seen in table 3.1.

Table 3.1: Ratios of Accuracy, Precision and Recall Equations

| Accuracy | $\frac{[\text { True Positives }]+[\text { True Negatives }]}{[\text { True Positives }]+[\text { True Negatives }]+[\text { False Positives }]+[\text { False Negatives }]}$ |
| :---: | :---: |
| Precision | $\frac{[\text { True Positives }]}{[\text { True Positives }]+[\text { False Positives }]}$ |
| Recall | $\frac{[\text { True Positives }]}{[\text { True Positives }]+[\text { False Negatives }]}$ |

It is worth inspecting all three predictors as a classifier can seem to be accurate yet offer no predictive value due to the accuracy paradox [30]. In an unfortunate consequence, results of post-classifed data can seem highly accurate while not being correct at all. For example, take a test dataset which consists of nine noise elements and three character elements. A classifier which categorises every element as noise will happen to return an accuracy percentage of $75 \%$. However, the precision and recall will be $0 \%$. Hence evaluating all three equations is required to confirm the classifiers ability to predict elements.

The classifier with the best accuracy and acceptable precision and recall (the percentage of which is close to that of the precision percentage) will be selected. At the end of this process, each newspaper will have a feature configuration and classifier which will be used specifically for said newspaper.

### 3.1.2 Processed Image Dataset Generation

Once a classifier has been found for each newspaper, each newspapers full sets of images will be processed into MSER data. Each line of this MSER data will then be classified by the best performing classifiers, as selected in the previous process, for each newspaper. The output of this process is a file containing the MSER records of each image and the selected classification as determined by the classifier. In other words, this file indicates which MSERs are noise and which are characters. The process in figure 3.4 includes the creation of this data file.


| Feature 1 | Feature 2 | Feature 3 | CLASS |
| :--- | :--- | :--- | :--- |
| Value 1 | Value 2 | Value 3 | C |
| Value 4 | Value 5 | Value 6 | N |
| Value 7 | Value 8 | Value 9 | C |
| Value 10 | Value 11 | Value 12 | N |

Figure 3.4: MSER process with the evaluation page

Figure 3.5 models the process of creating the cleaner images by removing the noise regions. The removal is carried out in a MatLab script which generates the MSERs for each image, reads in the classified MSERs and removes the MSERs which were categorised as noise, from the original images. New images are
generated and hence at the end of this step, the full set of processed newspaper images is produced. This script can be read in Appendix C, code extract C1.3.


Figure 3.5: Noise Removal Process

### 3.1.3 OCR Process

At this point, there is a new set of processed images. These images will be run through the OCR tool to produce text. See Figure 3.6. Each original image will also be processed through the OCR tool. The OCR tool used in this research was the Tesseract tool. This tool is the most widely used open-source OCR tool and is still actively developed on by a Google team [9]. The text output for each original and processed image will be tested for similarity against its corresponding testtext.


Figure 3.6: OCR Process

### 3.2 Testing Methodology

The research took a practical, empirical approach. The results are observable as measurable percentages of gain or loss in OCR output correctness. This section will describe the test set used and why it was selected. Also, how the technique was applied to the test images and the mechanism used to test whether or not the noise removal had an effect and the impact level thereof.

### 3.2.1 Data

There are two image datasets and three text datasets. From each original image, a processed image was generated by applying the noise removal technique. These form the two image datasets. From each image, original and processed, OCR text is generated. This creates two of the text datasets.

Each of these outputs will be compared to an equivalent test-text to measure similarity. This is the third text dataset. The test-text matches what the text should
look like should the OCR transcribe the image perfectly. Hence, the more similar the OCR output, generated from the images, is to the test-text, the more correct that generated OCR is. The test-text is manually transcribed and not toolgenerated.

The initial set of images was originally twelve images - six from The African Standard and six from The Gold Coast Leader newspapers. They were chosen from different issues and different dates. Later in the testing, seven more images were added to the dataset from The African Standard. The reasoning will be explained in the Results section.

The images used in the experiment can be found in Appendix B. The images selected for training were images $2,5,6,7,11$ and 12 . Later, image 1 was also used for training.

The images are cropped from images of full newspaper pages to keep the generated MSER sample size small. A half page image can generate over nineteen thousand MSERs. The number of MSERs needed to be kept to an acceptable size to keep the procedure at a reasonable timeframe. The selected images generated an average of about 5000 MSERs per image. The choice to keep the image sample small was due to the large amount of time the manual creation of the training data and OCR test files took. As it is, the generation of the OCR test data took about two weeks and the training file took one week. The classifier training was fairly quick, taking about ten hours.

The images include ink flecks, fold lines and bleed-though.
The dataset was kept small because the data needed to run through all available supervised learning algorithms in the MATLAB ${ }^{\circledR}$ program. Cross validation was also applied to the training. This also increases the training run time. A small dataset allowed for an acceptable training time.

Cross validation provides some protection from over-fitting. An over-fitted algorithm will work well specifically for the data used to train the algorithm but not for other samples.

The particular type of cross validation applied was k-fold validation. K-fold validation means that the training file records are split into $k$ sets. These sets are referred to as folds. The folds are as equal in size as possible. There are $k$
repetitions of training cycles. In each repetition, a different fold is selected as the testing set. The remaining folds are used to train the algorithms. After the repetitions, the average accuracy is calculated from the number of correct classified records divided by the total count of records in the training file. Each record forms part of the testing set once [31]. Use of $k$-fold increases the training run time - another reason to keep the data set small.

The processed images are created by having the classifiers determining which MSERs from those images are categorised as noise, and removing them from the image. OCR output will be processed from each original image and from the processed version of each image. Each OCR output was compared to its equivalent test-text.

The text-tests are manually transcribed versions of each image. They represent what the perfect OCR output of each image would be. Each images OCR texts will be compared to the images corresponding test-text. Hence there will be three texts for each image. One test-text, one OCR text output from the original image and one OCR text, generated from the processed version of the image.

The final measured outcome of the research was a value which represents how similar the texts were. The more similar the OCR output is to the test-text, the better. A perfect result would mean that the generated OCR text was an exact match to the test-text.

In order to calculate similarity, the Levenshtein distance algorithm was used. The distance value indicates how many character changes are required to make one text look like another. The character changes refer to how many times a character would need to be added, removed or substituted in order for the one text to be made to look like the other. The smaller the distance value, the closer the two texts are to being an exact match.

The results need to indicate the similarity scores. A table needs to be produced indicating the similarity to the test-text, of the OCR from the original images and then the OCR of the processed images. Table 3.2 is an example of the required results.

Table 3.2 Levenshtein distance results.

| Image | Levenshtein distance <br> from original images <br> OCR text | Levenshtein distance <br> from processed <br> images OCR text | Percentage <br> improvement |
| :--- | :--- | :--- | :--- |
| 1 | a | b | $((\mathrm{a}-\mathrm{b}) / \mathrm{a})^{*} 100$ |

The second column holds the Levenshtein distance score from the comparison of the original images text to the test-text. The third column contains algorithms score from the comparison of test-text and the OCR text produced from the processed image. An improvement percentage can be calculated from the ratio of the distance values. Figure 3.7 illustrates the calculation process just described.

This section describes the image datasets, the test datasets and the results (similarity) data that is required to evaluate the experiment outcome. The next section will describe the method used, in detail.


Figure 3.7: Improvement ratio of OCR output

### 3.2.2 Methodology

Three sets of OCR need to be created per image. Each image will have test-text, pre-processing OCR text and post-processing OCR text. Figures 3.8 to 3.10 illustrate the processing required to produce the OCR texts. Once processed, the texts will be compared to each other using the Levenshtein distance algorithm.

The testing will also involve text normalisation. Normalisation involves removing punctuation, extra white space and line breaks. White space is a character that represents a space between other characters. Sometimes when transcribing, the OCR tool inserts more spaces between words, than is necessary. Line breaks indicate the start of a new line. These elements are removed because they are more related to the text format than the text content and should not have a bearing on whether the content of two texts are similar or not.

The test-text will be produced by manual transcription - figure 3.8. The preprocessed image OCR output will be produced by running the unaltered images though the OCR tool - figure 3.9.


Figure 3.8: Manual Transcription will produce the test-text

There are more steps required for producing the post-processed images OCR, including the classifier training. The classifiers were trained on properties of the MSERs from six of the twelve images - three from each newspaper.

The MSER properties/features which were used were:

- the major axis,
- the minor axis,
- pixel count and
- region orientation.

The training file was created by writing the region features as records, into a file.
These records were manually categorised as either a noise record or not. This file serves to feed correctly categorised records into the classifiers so that they may learn how to categorise records like these into noise or not noise.

The classifiers were trained using the cross validation method. In particular, $k$-fold validation was used. This means that the training file records are split into $k$ sets. These sets are referred to as folds. The sets should be as equal in size as possible.


Figure 3.9: OCR text from original images

There are k repetitions of training cycles. In each repetition, a different fold is selected as the testing set. The remaining folds are used to train the algorithms. After the repetitions, the average accuracy is calculated from the amount of correct classified records divided by the total count of records in the training file. Each record forms part of the testing set once. The classifier training was run using $\mathrm{k}=5$ and $\mathrm{k}=10$. It was found that running with 10 folds made no difference to the results. These results have been omitted from the paper.

Once the classifiers were trained, they were used to classify the MSERs generated from all the images - including those used in the training set. This produced a result file indicating which regions were noise and should be removed. Using the results in this file, the processed images were created by removing the regions classified as noise. A fresh set of OCR text was generated from the processed images. Figure 3.10 models the process of generating text
from the images. The actual OCR generated from both the original and processed images can be reviewed in Table A2, in Appendix A.


Figure 3.10: Generate OCR text from processed images

From here, the generated OCR text datasets were available to be compared to the test-text. An ideal result would be at least a $30 \%$ improvement in the distance values, from the OCR of the processed images.

This chapter provided many illustrations to explain the technique which was to be used to remove noise from a set of images, cropped from historical newspapers. The technique consists of extracting MSERs from the images, using some of the images' MSERs as training data. Training all available classifiers and selecting the best one. Finally, producing new versions of every image. The OCR from the original and processed images were compared to their perfect representations. A
comparable difference between the OCR from the original images and the OCR from the processed images indicates any improvement or degredation in the OCR output quality. The results of the comparison tests are discussed next.

## 4. Results Analysis

The experiments offered up various results. It turns out that the technique is best applied at a narrower, publication issue-level. In other words, using images from across many issues of the newspaper and trying to remove noise from across many issues in one processing run, did not work consistently. The most consistent results were produced when using training data from a particular issue, in order to clear noise from the pages in that issue only. This section discusses the expermiments were carried out, what results were produced and why the above conclusion came to be. Only the most relevant results have been presented.

Although no assumptions about the data were made, an observation of the data showed that there was high variance in the image and training data sets. The tables in Appendix D indicate how widely the standard deviation differed from the mean, which indicates that the data was spread out over a broad range of values.

The most dominant classifier across all tests was the Ensemble Bagged Trees classifier, though the Cubic KNN (k-Nearest-neighbour) classifier was dominant for one particular training set.

### 4.1 Initial Test Run Results

The technique was originally applied to two separate datasets - sets of images from different issues of two different newspapers - The African Standard and The Gold Coast Leader. The original images and the final processed images can all be found in Appendix B.

Images 7 to 12, from The African Standard newspaper, all had positive results, although they did not all achieve the desired level of more than 30\% improvement.

The winning classifier for the training data taken from images 7,11 and 12 of the African Standard data set, was an Ensemble Bagged Trees classifier. Its percentages were:

- Accuracy: 95.5\%,
- Precision of $93.3 \%$
- Recall of $94.4 \%$.

The confusion matrix, indicating the number of true and false positive; and true and false negative results can be seen in figure 4.1. Out of a total of 17445 training characters, the majority of these were noise elements. 434 character elements were incorrectly identified as noise (false negatives) and 357 noise elements were ideintified as characters (false positives).

| Actual |  |  |  |
| :--- | ---: | ---: | :---: |
| Character | 6003 | 434 |  |
| Noise | 357 | 10651 |  |
|  | Character | Noise |  |
|  | Predicted |  |  |

Figure 4.1: Confusion matrix of test run for African Standard Newspaper


Figure 4.2: Results of test run for African Standard Newspaper

Looking at the African Standard results, figure 4.2, it seems as though running the technique, with a few examples from different issues to serve as training data, could work to remove some amount of noise across multiple issues of a newspaper as four out of the six improved by over $45 \%$ and all of the images showed some improvement. The Gold Coast Leader results however, did not agree with this outcome.

The Gold Coast Leader results included some images which not only saw no improvement but in fact saw a decrease in OCR output correctness as shown in figure 4.4.

The test images of 2, 4 and 6 from Gold Coast Leader which produced 13177 test record found that the best performing classifier was an Ensemble Bagged classifer as well. The confusion matrix for this classifer can be seen in figure 4.3. The classifier produced the following percentages:

- Accuracy: 96.2\%
- Precision: 94.3\%
- Recall: 94.9\%.

The next section looks into what went wrong with these images.

| Actual |  |  |
| :--- | ---: | ---: |
| Character | 4438 | 237 |
| Noise | 268 | 8234 |
|  | Character | Noise |
| Predicted |  |  |

Figure 4.3: Confusion matrix of first test run for Gold Coast Leader


Figure 4.4: Gold Coast Leader results after first test run

### 4.2 Investigations

Images 1 and 6 produced worse quality OCR text after the application of the technique than they had before. It was also for different reasons. See below images 1 and 6 , specifically from this data run. Appendix E contains the OCR extracted from these two images, from this first test run, see figures E1 and E2


## Mr. Bernard Hicks

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```

Figure 4.5: Image 1 from $1^{\text {st }}$ Gold Coast test 1

## The Gold Coast Leader.



Figure 4.6: Image 6 from $1^{\text {st }}$ Gold Coast test 1

### 4.2.1 Broken Characters

The characters in image 1 are what one might call 'broken' characters. A broken character is one where the character is not solid throughout. It is not formed from one region. Figure 4.7 was extracted from the original image 1. This image demonstrates the problem. Many of the characters in this image consist of more than one coloured region. Most of the characters are made up of multiple colours, which indicates that they are broken and not whole characters. Having some broken characters is not uncommon in this dataset. However, image 1 consists almost entirely, of broken characters.


Figure 4.7: Broken characters

The decrease in OCR output quality occurred because there were not enough broken characters included in the training data. These smaller regions, of the broken features, will have different feature values. The training data for The Gold Coast Leader contained the MSER data from images 2, 4 and 6. No training data was included from image 1.

If these are not included in the training data then parts of these characters are likely to be classified as noise. Figure 4.8 shows the same extract from the postprocessed image. The text quality is greatly reduced. Some of the regions which formed part of the characters were incorrectly classified as noise and removed.

> Mathews Wrightson \& Co. of 32 Grist St Hc ens Ion on E C 1 Yam of achnove git stmhere reputition to take overtl, bume, curiclon ly hafor some years pit

Figure 4.8: Decrease in quality after processing

To confirm and check the consistency of this result, more images were selected and cropped from The Gold Coast leader. Image 13 was cropped from the same full page as image 1, image 14 was selected from the same issue as image 1 but a different page and Image 15 was from another issue of the newspaper. The results of processing these images, using the same classifier, are in figure 4.9.


Figure 4.9: Gold Coast Leader's second run to confirm image 1's problem

As with image 1, image 13 also experienced negative results. This was expected as the images formed part of the same page of the newspaper. Image 14 produced different results. Image 14 was from the same publication issue but not the same page as 1 and 13. Image 14 did not suffer from broken characters and in fact had a good OCR improvement of $62.69 \%$ post-processing. This information plays a role in how one needs to select the training data, discussed later.

To overcome the broken character issue of image 1, the training data needed to be bolstered by adding MSERs of the broken characters. Image 1 (but not 13) was added to the Gold Coast Standard's training dataset. Once retrained, the classifier and noise removal process was run again. This time, image 1 improved dramatically and image 13 was at least in the positive. This does indicate some overfitting for image 1 and the data should be selected differently, possibly from across more examples, to remove the bias but this result does indicate that addition of these broken elements is required and should be considered for this dataset and those similar to it.

The winning classifier for this training set was also an Ensemble Bagged Trees. Figure 4.10 displays the confusion matrix for this classifier.

| Actual |  |  |
| :--- | ---: | ---: |
| Character | 7023 | 551 |
| Noise | 592 | 8895 |
|  | Character | Noise |
|  | Predicted |  |

Figure 4.10: Confusion matrix for classifier trained on images 1,2,4,6.

The classifier had the following percentages:

- Accuracy: $93.3 \%$
- Precision: 92.2\%
- Recall: 92.7\%

This time, image 15 produced a negative outcome. From 43,02\%, before the addition of image 1 to the training set, it changed to a negative result of $-55,47 \%$.
Figure 4.11 illustrates the results of this third processing run.


Figure 4.11: Training data consisted of images 1, 2, 4 and 6

This was the first indication that the MSER data could vary widely across issues. This can make algorithm tweaking difficult for the classifiers and produce results like this one. Simply adding image 1 did not improve image 1 and 13 greatly. In this test run, image 15, previously producing a positive result post-processing, produced a negative result. More about the data is discussed in section 4.4.

Another test was conducted. This test used image 1s MSER data only, as the training dataset. The training was run multiple times (as it was for very training set) and ultimately, the winning classifier for this training set was Cubic KNN (k-Nearest-Neighbours).

The percentages for this classifier were:

- Accuracy: 91.5\%
- Precision: 93.3\%
- Recall: 95.4\%

The confusion matrix for this classifier is displayed in figure 4.12. The results for the application of the classifier to the full Gold Coast Leader image test set are in figure 4.13.

| Actual |  |  |  |
| :--- | ---: | ---: | :---: |
| Character | 2765 | 134 |  |
| Noise | 197 | 788 |  |
|  | Character | Noise |  |
| Predicted |  |  |  |

Figure 4.12: Confusion matrix for classifier trained on image 1 only.


Figure 4.13: Training set consisted of image 1's MSERs only

This training set worked well for image 1, 13 and 15. Image 14 almost made it to $30 \%$.

Recall the origin of the images: Image 1 and 13 came from the exact same newspaper page. Image 14 is from the same newspaper issue, but a different page. The next question was, would the same classifier, trained on image 1's MSER data, work well for the entire newspaper from which image 1 came?

Another processing run was prepared. This run included all images from the entire issue, from where image 1 originated - The Gold Coast Leader 3 January 1903.

All four full pages of the issue were run through the process. They were named images 16, 17, 18 and 19. For context, image 1 and 13 were cropped from image 16. Image 14 was cropped from image 19.

Figure 4.14 displays the results relevant to this processing run.


Figure 4.14: Image 1 training data on same issue

It was this run that led to the conclusion that the processing should likely be run on an issue by issue level, and not for an entire newspaper set. This makes sense when one considers that different printers, different fonts and even different noise can occur across pages from different issues.

Pages from the same issue are not guaranteed to be alike and have similar regions but the MSERs from an issue are more likely to be more similar than MSERs across multiple issues.

This data is complex. The values of the different features do not conveniently cluster. This can be seen by the dominant classifiers which produced the best results. This is discussed further in section 4.3

In the first Gold Standard processing run, image 6 also exhibited problems. This image is examined next.

### 4.2.2 Misread Layout

Image 6, as seen in figure 4.15, had a different challenge from that of image 1. The OCR output indicated that the OCR tool was interpreting the page layout incorrectly.


Figure 4.15: Paragraphs OCR'd on Image 6

There is some remaining noise between columns 1 and 2. This likely affected Tesseracts ability to gauge spacing between columns 1 and 2 . It also appears as though the headings at the top of each column, being different fonts, caused the OCR tool to not read the columns completely from top to bottom. Rather than reading each column top to bottom, the tool read paragraphs across the page, left to right.

Figure 4.15 shows the different paragraphs as read by the OCR tool. The paragraphs of the first two columns were read across. Only column three was correctly read as one paragraph. One block especially indicates the problem the largest green block. Not only were the sections read from left to right but the line between the columns, in that block, were completely ignored. This also led to some sentences not being read at all.

Image 6 produced a negative result on the first Gold Coast Leader processing run. Figure 4.16 shows the post-processed version of image 6 for that test run.


Figure 4.16: Post-processed image 6, Gold Coast Standard Run 1

Newspaper content tends to be organised in columns. Tesseract has a certain way of working when it tries to read an article. Should the columns be separated by lines, Tesseract removes those lines from the images and uses spacing/ whitespace between columns to separate articles. This allows the same code to work on images of newspapers which use lines and those which use spacing, to organise the columns.

The lines may not get properly removed if the lines are not intact and are broken. Also, if the spacing between columns is insufficient, there may be problems with the columns being read correctly. This looks to be the case with this image. The flaw here is that the layout element - the lines and headings, were not well utilised.

Layout elements, like lines, are distinctive. In this project, lines were treated as noise, but it is possible to classify lines as lines - separate from noise and character elements. Classifying lines into vertical and horizontal lines, including incomplete, partial lines, could be of use to overcome the deficiency at the OCR step of the pipeline.

The headings are also distinguishable. Fonts of larger heights can be distinguished as heading elements. It is possible to classify these regions as other types of elements and introduce a layout processing step which can be
used for documents with broken layout elements. Although this was out-of-scope for this paper, there is more on this in Chapter 6.

The classifiers offer more insight into the complexity of the data. This is discussed next.

### 4.3 The Classifiers

Ordinarily one might decide to look at the data beforehand and decide on a few classifiers to try. This research took the opposite approach for two reasons: There are no currently prescribed/standard classifiers to use when working with MSER data, and assumptions about the data were specifically not made. Classifiers are designed to determine heuristics for classification based on the training data provided. These are often better than what a person would prescribe as sorting rules.

The most dominant classifier was the Ensemble Bagged Trees classifier. Only one training set produced a different dominant classifier for multiple runs of the same training data.

In order to determine the most dominant classifier per training set, each set of training data was run through the classifiers multiple times. The only training set which produced an inconsistent dominant classifier was the training set which consisted solely of image 1s MSER data (Gold Standards Result 4).

It would return with the winning classifier as either the Ensemble Bagged Trees classifier or the Cubic KNN classifier, in the accuracy range of 91.6 - 91.8 . Ultimately a classifier of type Cubic KNN, with accuracy 91.7 was used for processing, as this classifier result was produced the most frequently.

The fact that these classifiers were the main contenders out of the 23 in total, says a lot about the dataset, especially about it's consistency for high varience. The next sections delve more into how these dominant classifiers work and why they became the prominent classifiers for this dataset.

### 4.3.1 Ensemble Bagged Trees

The MATLAB ${ }^{\circledR}$ Bagged Trees Algorithm, used by the Ensemble Bagged Trees (EBTs) classifier, is an implementation of the Random Forest algorithm created by Leo Breiman [32]. It is described as a forest because it is a collection/ensemble of decision tree classifiers [33]. By default in MATLAB ${ }^{\circledR}$ an ensemble consists of thirty trees.

A decision tree looks like a flow chart. It is a useful way to organise and display an algorithm. An example is displayed in figure 4.17.

Many trees form an ensemble or a forest. Breiman's Random Forests are a collection of trees which get their training data by selecting a randomized portion of the full training dataset. The method is called Bagging.


Figure 4.17: Example of decision tree

A bag is a sub-selection of data which is randomly selected from the full training set. Each tree in the forest will be trained with a different bag [34].

Besides potentially not using the full set of training data, in the bag, it is possible that not all of the features are selected either. Only some features may be selected for use. This helps to reduce bias.

When classifying a record as noise or character, all the trees are used to determine the classification. The classification selected/voted for by the most trees, is the final result of the forest/ensemble.

The dominance of the EBTs classifiers indicates that the data naturally has a lot of variance. The data-points are not neatly arranged into contained sections on a graph and not simply separated. A number of simple algorithms used together can tackle a high-variance dataset better than a single very complex algorithm. See a simplified example in figure 4.18. Using different lines, the scattered data can still be sorted (green and blue data points). The single, more complex function on the right simply cannot separate the data points as well as the ensemble can.


Figure 4.18: Simplified ensemble versus single function

Random Forests were also the dominant classifier found in Greenhalgh and Mirmehdi's study [29]. It was the best performing classifier out of a choice of Random Forests, SVMs and Multilayer Perceptrons. This outcome, together with this paper's findings, usefully indicates that Random Forests are likely a good algorithm match for MSER data.

There are some requirements for Random Forests. For one, they need a large training set. They are generally one of the slower classifiers to use. They can also be memory-intensive [32].

For each of the EBT classifiers found for the newspaper datasets, each tree in the ensemble made use of all four features. Although a tree is easy to follow graphically, they were quite large and not easy to display as an image. Instead, Table 4.1 displays some node counts per EBT.

Branches contain conditions on which to split and a record will follow the branch until it reaches a leaf, which indicates a classification of 'Character' or 'Noise'. On average, branches mostly were formed of a conditional on the value of the Major Axes feature. The feature branched on the least was the Pixel count. Figure 4.19 indicates how dominant each feature was on average all thirty-trees in all three EBTs. There is no feature that drastically dominated and no feature that was not used. The features were well-balanced in their use across the classifiers.

The Gold Coast Leader classifier, with training data from images 1, 2, 4 and 6, was the only ensemble to have more leaves with an outcome of 'Character' rather than 'Noise'. There is also a large difference between the 'Character' and 'Noise' leaves of this classifier. These differences from the previous classifier (trained without many Broken Characters, which image 1 provided) attests to the importance of including Broken Character data in the training set.


Figure 4.19: Feature dominance across all trees for all EBTs

Table 4.1 EBT Observaions

|  | African Standard Test 1 | Gold Coast Leader Classifer Trained on images 2,4,6 | Gold Coast Leader Classifier Trained on images 1,2,4,6 |
| :---: | :---: | :---: | :---: |
| Average number of nodes in Tree | 1186 | 854 | 1705 |
| Average number of branches | 593 | 426 | 852 |
| Average count of branch with condition on Major Axes | 163 | 116 | 233 |
| Average count of branch with condition on Minor Axes | 153 | 108 | 222 |
| Average count of branch with condition on Pixel Count | 124 | 90 | 168 |
| Average count of branch with condition on Orientation | 153 | 112 | 230 |
| Average number of leaves which result as class ' N ' | 320 | 229 | 259 |
| Average number of leaves which result as class ' C ' | 274 | 198 | 394 |
| Difference between ' N ' count and ' $C$ ' count | $\begin{gathered} 46 \text { more ' } N \text { ' } \\ \text { leaves } \end{gathered}$ | 31 more ' N ' <br> leaves | 135 more 'C' <br> leaves |

The training of image 1's data did not have an EBT as its only dominant classifier. Out of multiple rounds of training, although EBT's did appear, the Cubic KNN classifier appeared the most often. The next section reviews what KNNs are and how they work.

### 4.3.2 Cubic KNN

When determining the class of a data-point, the KNNs (k-Nearest-Neighbours) classifiers use the distance of said data-point from other, already classified datapoints to find said point's neighbours. The majority classification held by those neighbours determines the data-point's class [35].

For example, see figure 4.20. The orange dot requires classification. As it is closest in distance to the green dots, it will be given the same class as them. The $k$ variable indicates how many neighbours should be examined when determining classification. $\mathrm{k}=2$ would mean that the class of the two closest neighbours would be used to determine the class of the data-point in question.


Figure 4.20: Classification using KNN

Distance between neighbours is calculated using a distance algorithm. In the case of a cubic KNN, a cubic distance function is used to determine the nearest neighbours. In MATLAB ${ }^{\circledR}, \mathrm{k}=10$ [32].

KNN is useful when data points cluster/group together, on a graph. The recurrence of this classifier during trial training runs indicates that, although the MSER data has high variability, it is not uniformly scattered and there are in fact patterns of data congregation. Recall though, that this classifier was only dominant for one training set and was not consistently dominant on all training runs of that training set. Although the data may cluster slightly, the clusters are
not consistently distinct enough to make the use of the KNN classifier, reliable in the pipeline. The automate-ability of the pipeline relies on a reasonably consistent classifier.

### 4.3.3 Post-Classifier-Selection

After the selection of a dominant classifier, one would be able to continue with improving on the classifier accuracy. This may include collecting better test data, tweaking the ensemble and/or adding more features to the training data. As with many machine learning applications, it may take numerous tweaks to training data and algorithm configuration to an acceptable accuracy level. A researcher making use of this technique can choose to continue to improve on the classifier or not.

### 4.4 The effect on noise

Earlier, three types of noise were identified. An objective of the testing was to discover which types of noise the technique may or may not work for. This section will look at examples of that noise and how they fared against being exposed by the technique.

### 4.4.1 Ink bleed-through

The images exhibiting bleed-through unfortunately saw little improvement. Although the human eye can see two distinct text sizes on the image, because the letters overlap, their MSERs do as well. The bleed-through letters did not form separate MSERs. Instead the pixels of the bleed-through characters and the pages true characters merge. They form part of the same MSERS and therefore were not able to be classified as noise and removed. Figure 4.21 shows image 9 before processing (first image) and post-processing (second image). This image only experienced an improvement of $17.57 \%$

It is possible to remove bleed-through that does not overlap with the underlying text however. It does not remove all non-overlapping bleed-through text perfectly but the partial removal of the bleed-through can improve OCR quality


Figure 4.21: Image 9 original vs processed

Figure 14.22 shows image 11s transformation. The image experienced a $65.10 \%$ improvement in OCR correctness.

### 4.4.2 Ink flecks

The technique in this paper was successful in removing this type of noise. Image 2 contained a high-level of ink flecks. Figure 4.23 displays the pre and postprocessed images. After the addition of image 1 to the training data set, image 2 saw an improvement of OCR correctness of $74.46 \%$. Ink flecks are abundant in the African Newspapers database. If the technique works for no other noise, it still offers a valuable improvement opportunity to the remove the most prevalent noise from historical newspaper images and greatly improve OCR results.


Figure 4.22: Image 11 original vs processed

4.

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THE GOLD COAST LEADER

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Jan. 31, 1903.
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Figure 4.23: Image 2 original vs processed

### 4.4.3 Ink blackouts

This is easily the worse type of noise. Blackouts, in this paper, refer to the completely black marks found on the images. While it may be possible to remove minor flecks around the marks, removing the marks themselves offers no value at the OCR step. Any text underneath them is indistinguishable. There are other ways to solve the problem that these marks cause but not at the Image Processing level. It may be possible to tell them apart and classify them as blackouts due to their high pixel count. Pages containing blackouts could then be flagged for restoration processing.

The research analysis chapter walked through the test runs and the most prominent results. While the African Standard newspaper images produced viable results on the first try, the second paper did not. The Gold Coast Leader data brought up some problems with the images. The problematic broken characters were discovered. It was overcome by amending the test data. Future researchers using this technique can make sure to cater for broken characters in their training data sets. This problem also led to the realisation that processing the images from an issue rather than the images from an entire newspaper produces more consistent results. The layout readability problem was also discovered. Although this issue was not corrected in this research, it is possible to classify layout elements distinctly from noise and characters. There is more on this in chapter 5.1. The technique worked well for ink flecks but not ink bleedthrough. Ink blackouts cannot be resolved at the Image Processing step but the technique could offer some assistance to the Text Analysis and Processing step. This is discussed further in Section 5.1.

## 5. Conclusions

This chapter contains ideas for future improvements. This includes classifier improvements, identifying layout regions and providing assisted sorting for elements which require human intervention to correct. A summary of the research concludes the dissertation.

### 5.1 Future Recommendations

This research was a first step to verify whether the use of MSER features with supervised machine learning could offer a viable noise removal mechanism for historical newspaper images. There are further steps which can be taken to expand on the addition of this technique to the DPP. This involves classifier improvement make use of the layout elements and the identification of serious noise damage to be marked for restoration.

### 5.1.1 Further classifier improvement

The Ensemble Bagged Trees classifier is a good choice for MSER data. One can continue to try different selections of testing data by adding or even removing training samples and taking more varied samples. The features used can also be changed (parameter tuning).

Boosting is the next advised step after bagged classifiers [35]. This requires arranging the data and possibly adding or removing features from the dataset. This cannot guarantee more accurate results. It may be that one will be able to improve on the processing time and memory usage.

One can also pre-cluster the data and use different training techniques on those clusters and possibly build up a more accurate ensemble.

### 5.1.2 Classification for layout elements

As was seen with image 6 , the OCR tool read the text in the first two columns, not top to bottom but instead, left to right. This was likely due to some noise that remained in between the columns, as can be seen in figure 4.10. The column lines on the image are distinct shapes, it is possible to classify them as lines,
separate from noise and characters. It is also possible to distinguish lines as vertical and horizontal, as orientation is a property of an MSER.

Skew lines would not pose a problem. The classifier will learn discover an acceptable orientation range for vertical and horizontal lines, broken and complete.

A layout determination step can be added after the images MSERs were classified but before the noise is removed. At this point, the layout elements could be used to label or cut the image into separate, distinct sections, see figure 5.1. The blue rectangles indicate a complete section of text. The pink indicates layout elements.

## The Cort Coast Leader.



Figure 5.1: Content elements and Line elements in image 6

### 5.1.3 Identify elements for restoration

Some parts of the image are not possible to recover at the Image Processing step. Any text covered by solid black, and unreadable by people, is unreadable by an OCR tool. There are restoration techniques but they are found in the next pipeline step - Text Analysis and Processing. It is possible to use Natural Language techniques to predict what text may lie beneath a 'blackout' mark [36]. Consider the autocomplete and auto-predict functions available on smartphones.

It may be possible then to recover some lost text, but finding these elements in a large database of images is daunting for a human. Blackout elements are likely distinguishable, like the lines, noise and characters are. For one, they have very high pixel counts.

Images 1 and 4 (see figures B1 and B4) contain examples of blackout elements. The blackout elements, like all MSERs are likely to have certain properties which distinguish them. For instance, the MSER of each of these these blackouts have some of the highest pixel counts out of all the MSERs generated for these images. Figures 5.2 and 5.3 indicate the blackout elements from images 1 and 4 respectively. If the classifiers can label these elements, they can be sifted from the image database by the computer rather than a human. Further restoration processing can be applied to the page or text section which contains the blackout element.


Figure 5.2: Blackout example from image 1-91182 pixels


Figure 5.3: Blackout example from image 4-33050 pixels

The MSER and machine learning classifier offer a range of future possibilities which not only benefit the OCR processing stage but the Text Analysis and Processing stage as well.

### 5.2 Summary Conclusions

The purpose of the study was to evaluate the use of MSER and machine learning classifiers in removing image noise in order to produce better quality OCR text. Overall, the technique uncovered the noise type for which the technique works, at which level of document (full newspaper, publication issue or page) to process the images, important types of elements to be included in the training data as well as possible improvement for even better outcomes (improving the machine learner through data and classifier tuning, identifying and making use of the layout elements and identifying sections that require human intervention in order for the content to be identified and restored if possible). The African Newspapers database was used as test data in this study.

Processing a large number of historical documents is a laborious task. It could involve manual correction of many pieces of text which did not OCR correctly because the image contained noise. Image noise can affect an OCR tool's ability to correctly interpret text from an image. It could also lead to work-arounds being required later in the Text Analysis and Processing stage of the DPP.

The Image Processing step of the pipeline is responsible for transforming the incoming images into images which will be readable by the next step - OCR.

Various noise appears in scanned historical document images, even after binerisation of the image. The technique worked well for removing ink splatter. It is possible to remove noise by sorting MSER elements into characters and noise.

The technique in this paper was designed to do the sorting and then remove the noise elements. The steps of the noise removal process are:

1. Generate MSER data from images.
2. Choose training data then train and improve the classifier.
3. Classifier determines noise and character elements.
4. Removing noise elements to create new images.
5. Generate OCR text from the new images.

The experiments validated whether the mechanism of MSER data and classifiers would be a valuable addition to the DPP, in order to categorise noise elements and remove them. Less noise in an image means less bad OCR text output.

The classifier training requires manual intervention but once done, it can be placed into the Image Processing step of the DPP.

Although not the only classifier option, a Random Forest (or the Ensemble Bagged Trees classifier if using MATLAB ${ }^{( }$) is likely the best choice of classifier for MSER data. The classifier and its training data can be changed until an accuracy level, acceptable to the researcher, is achieved.

Having a variety of examples is important. This research chose to use real life examples as training data. This decision was made due to noise being inconsistent. It also keeps the data set real and non-synthetic. This proved useful in discovering more about the nature of the MSERs and the OCR tools interpretation of the image.

It was found that broken characters need to be catered for in the training set. With regards to layout interpretation, it could be worth looking into using the layout elements of a page to overcome noise affecting the OCR's tool ability to read the column layout (common for newspapers).

The investigations showed that it is possible to engineer a semi-automatable DPP which includes image noise removal, for historical newspaper images from the African Newspapers database. The images from the database produced more consistent results when processing the dataset at the publication issue level, rather than at the newspaper level.

The investigation showed that the technique has promise as it allowed the OCR tool to produce improved output. The future recommendations show that the use of MSERs and classifiers can be of further use when processing newspaper articles.

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## Appendix A

Table A1: Comparison of correct text against the OCR output

| Test-Text | OCR of original image | OCR of processed image |
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| Norwegian Timber, | Norwegian Timber, | Impo-t. Export Nor eglan |
| Madagascar | Madagascar | Timber Madagascar |
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Table A2: Comparison of correct text against the OCR output

| Img | OCR from original images | OCR from procssed images |
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| Mr. Bernard Hicks _ <br> 79 Mark Lane, London, has the pleasure "to inform Clients 011 the Coast'that he has been able to make arrangements with 1111.1... | he has hitherto been able to otiei especially as tetrards the prompt shipments of Goods ordered. <br> As the new business "ill 1e111ain under his management any indents Clients may be pleased |
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7' SIERRA M91755. \\
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\begin{tabular}{|c|c|}
\hline \multirow[t]{2}{*}{V} & Shannon, JUNE 25, 1904. \\
\hline & Uganda Railway. \\
\hline :1. ,r'igtit'h effect from Is-t July.,' & NOTICE. \\
\hline 3:" Navy'tim'e tablesf'withfihll partir; _ & TIME TABLE ALTERATIONS. \\
\hline 'I & Public notice is hereby given \\
\hline I & "that that the present train and , steamer timings will be altered \\
\hline ,Z'Ss'iUBDAY,' 'clunn 25, 19M. & with effect from Ist July \\
\hline \multirow[t]{4}{*}{"\#3151; mmiéam em lemme. s} & New time tables with full particulars will shortly be issued. ' By Order, \\
\hline & 'A E. CRUICKSHAN K, \\
\hline & Traffic Manager \\
\hline & Traffic Manager's Office, Nairobi, 11th June, 1904. \\
\hline \{fugeandaf RailWayn 2 & «THEE AFRIEAN‘ STANDAiRD. \\
\hline 'rims; TABLE _ ALTERATi'Ong ' & theta «in the rarest. . \\
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s*:-'fthat;:,tha 't'the'l present train and \\
:'ete‘amer 'timings will [be altered.
\end{tabular} & General Sheekeberg timed early morning of the 16th1descnbes the battle of \\
\hline fg'oule'ré will shortly be isshed'. & Wafengkan \\
\hline By Order,- ' I & and says that a superior force of the \\
\hline ' ' A. E. CRUICKSHAN K; & Japanese \\
\hline > Traffic Manager. & on the 15th turned his right flank and com \\
\hline Traffic Managef's. Office, . ' . ' a '.]'1."a‘s1'.""fl?i',mh Jung, 19041: " & pelled him to retreat northwards by three roads, his losses were heavy, the Japanese fire wiped- out two batteries and' 13 out of \\
\hline .. & \\
\hline I & guns were destroyed and abandoned, . \\
\hline 5 an & \\
\hline & LOVDON, J ONE 18. General Bobrikofl' is \\
\hline lofif'svisquaciron. J ~ & dead. \\
\hline "theiilttiimlllt'vv*|+'irtEttt.I & \\
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\] & LONDON, J UNE 18. Admiral Kaminura's fleet started on the 15th 113 pursuit of Skryd \\
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r .3, it? \{. 3 \%. \\
LONDON, JUNE 18' 'Earl'Percy die nnounced that the transfer Of Zanzibar and Pemba to the Colonial Office is not yet decided. ' \\
LONDON, J UNE 18 A Frenchman named \\
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Englishmen had a place and nobody. was hurt. . -, r ,5" \(£ 7,143\) ? \\
. , I) \\
LONDON, JUNE 20. Theiidnéivinv is the result of the Market Harborough ele tron: \\
Mr Philip Stanhope Liberal 7843 votes. \\
Mr. Dixon 'Ufiidflftfifibloo ,, The position is unchanged. \\
LONDON, JUNE 20. Mr. J. A. W., (0011.) has resigned.
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THE A'FR'ICA'N‘ svflBARD.
just as Macdonald was collecting his troops and stores forwstart. No incident of Im perial expansion has been so extensrvely and
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Major Austin, who had worked with him long before Uganda (lays, is one of the most
loyal, and at the same time most convincing.
The Soudancse w 110 mutinied were the on evil
logacv left to Uganda by Sn Frederic Lugard.
They \(u\) ere the dereliéts of the forces of Emin
Pasha and Sir Henry "Stanley, and in the main
notrery good Soudancse, though a certain proportion were excellent They had serr ed agreat pu ose when first introduced into Uganda will scattered in garrisons over a wrde country. When Macdonald arrived from England in 1891 they were ripe for mutiny. The rmmcdrate cause was undoubt
odlv overwork. The King MWanga had re eentl) fled from the capital and raised a rat olt


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\hline & Zanzibar, \&German Eastl Afriéa, & Establish d in . 1880. \\
\hline & . \(3^{\prime \prime}\). & saw JUNIOR, \& nus, \\
\hline & "3 & Zanzibar, \& German East Africa, \\
\hline & Established In .1880\} & Mombasa, Nairobi \& Entebbe. \\
\hline & Mombasa, Nairobi \& Eritebbe. & GENERAL MERCHANTS \\
\hline & \GEVNERAL MERCHANTS & - \\
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\hline & A'r W, & \\
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\hline & . COMMISSION AGENTS. & \\
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\hline & ' Importers of '1 I' & Provisions, Wines, Liqueurs, \\
\hline & & \& c. \\
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\hline & & Famous Whisky Antiquory. \\
\hline & I Provisions, Wines, Liqueurs, & \$2,201 \\
\hline & I Re; & PRICES MODERATE. \\
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\hline & & EAST AFRICA STORES, \\
\hline & (I?. - ' "£250: & TAILORS AND GENFRAL DEALERS. \\
\hline & PRICES MODERATE. & (NEXT To MOMBASA CLUB.) \\
\hline & THE MOMBASA STORES. & \(V\) ? \\
\hline & . CRossE AND BLACKWELL s PROVISIONS A SPEGIALITY & THE MOMBASA STORES. \\
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\hline & & Begg's Rbyalthlsky. \\
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A" English Goods at Enghsh Prices I
—. _ Specialities z—Ladies
Clothmg, Undercloth1ng, Lingerie,
IMillinery,
Haberdashery, Hosiery, Bolots, Shoes, Slippers, and Toilet Requmteg I

GENTLEMENS Hm?» » R's;

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Guns and Ammunition, T0018 and Ironmongery, Medicines \&c.~ . - ' , 'i . . Buyers of Ivery, Rubber, Gum, Wax, 113., in iargé or small qRahtities.

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' .J H. DRAKE

I Chief Agent
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LONDON, MARCH 20. -, 一The election
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LONDON, M 11101120 L'J'he 'A'
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tiOned' 1n Reuters. of the 4th instant. '
LONDON, Minion 20.4-A sexious
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LONDoN',\\.1n01120.——In a letter to
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THE AFRIGAW' S'i'AWDiARD
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, Lounou, MARCH 20. The election for Rye to replace Mi. Brookfield, Conservative, who
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e LOVDOV, IIIARCH 20 The American
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f LOINDON, MARCH 20 A serious retolution
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I from the Bishop of Uganda, the Bishops
strongly condemn Sir Harry Jolinstons proposal in fat our of recruiting Trans Aambe
I sian gatiy es for the Transvaal Mipesi \({ }^{\prime}\) Lennon, MARCH 90. Renter's Agent tele ' 8 graphs fiom Bloemfontein that there is extreme dissatisfaction in the Army garrison
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\hline LONDON, 111111011 20". -'-Re"ute1" s Ag'eiit' t'ele- & BIS \\
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\hline \multicolumn{2}{|l|}{The officers Complain bitterly of the 'class 0 recruits. that are being sent out;} \\
\hline many of the are mere boys and are scoffed & His mind and eye alike, on knowledge bent ;V' \\
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\hline thd'cfact; ' & A sma nnk figure, full of life and tire ; \\
\hline \multicolumn{2}{|l|}{officers and their wives 3a e: stril living ..} \\
\hline & I thought with shame upon mv idle state ; \\
\hline \multicolumn{2}{|l|}{0.---In consequence of} \\
\hline arr-9"":- .14? £35.; li." & Of why thoge gtonics had neyer chained my \\
\hline At table strewn with books I saw himfirst; & looks 3' 1'. - - > \\
\hline His mind and eye alike, 011 knowledge bent & 0 \\
\hline Most eagerly he moved "0111113331" & i y \(1^{\prime}\) \\
\hline to page 7. & Then left him there alone .413. big red ant: \\
\hline Then paused awhile, as if at' least & \\
\hline content & Quite buried in a pile of musty books. \\
\hline \multicolumn{2}{|l|}{Blitthen the quest was, once again} \\
\hline Aga he scanned each closely p1inted page; & P \\
\hline 'A sma unk figure, full of life and fire ,Seeking\the treasine '61»; 15111116905 & Nairobi, 13 03. - ' \\
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Quite buried 1n a pile of musty b'ooks.
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are now entiiely bi ilt by the people; we have
more than seventy oftlieni. Mpst ot these areruilt oi reeds .uii sink s,' are plastered angliigtc'lied, and are seated in a rough fashiot'i" But the total Vilue of a good school
of this type is not more than \(£ 3\). Recently, howewr,_liricl schools are being erected by the people Last year live schools and \(a^{\prime}\) churclgyere built, but this year more than double that number (110 promised These are
valuable propertv, a continual lesson to the people, and are ti 0 pride and delight of the builders. In many another form this contriution of free labour expresses itself. Month y month hundreds of iiicsengerspcarrv little loads and letteis to and from the large net work of schools without pay. Roads are always being made or kept in repair, station
grounds are swept, and school htuses are cleaned and smeared e\ery week without "payment. At Ho'i'a we tried to engaoe four
women. But no one would take up the work,
it was too heavy, and we had to fall back on
free labour. Now schools and church are regularly cleaned iiithout a grudge and 3
without cost.
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have \\
more than seventy oi them \lest of these \\
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loads and letters to and from the large net- \\
always being made or kept' in repair, station \\
cleaned and smeared every week without \\
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women. But no one would take up the work, \\
, it was too heat y , and we had to fall back on free labou1.Now schools and church are nithout a grudge and wit, out cost-I \\

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\(\because\)

' " , , , e - . .' 7. -' '-‘‘', THE;LAND
£01,103\} . .-: :BOhtlhfa-‘h—The markeetgieteadfyhln s'alea

It ere Were". ' ageo' " asea'an
I '5' unsurpassed. , -. 'i . '_ , 1 t) _ ' " 4-.- '
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51.".0|d18 \({ }^{\circ 10} 9 t^{\circ} r^{\sim}{ }^{\sim}\) ) low
andrtdgeome'perisbed at37/-,, 240 bags

I": ' Unsurpaissable.‘ ,:
"
,FRsenANT,
., BEFRESHING.'
if - *' 'The'Joy .of Every Housekeeper.
obtainable area" Dealers.
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\(-r 7\)

THE AFRICAN STANDARD. c

Unsurpassed-
and

Unsurpassable.
Choicest Quality. .3» a, \%

Lowest Price.
, \a \(\$ 9\) PURE,
x) 1 QB FRAGRANT,
' REFRESHING.

The Joy of Every Housekeeper.

Obtainable at all Dealers.
ma LAND romcy.
(signalled by an Old Selector.)

A few words on the Land Policy of British East Africa. Thousands of years ago in the

Land of Canaan the herdsmen of Abraham,-
the pioneer squatter, and Let the first selector,
had a serious quarrel, probably about grazing
rights, an early indication of the importance
of the land question to humanity. Since then in every clime, and in every age man
the pioneer squatter, anti~ Lot the first selector, hadxa serious quarrel, probablypahout grazing
- righteya'ri early inclination, o'f' the importance
of- the land. question to humanity; Since then in every climefl'a'gd in every age man-
. kind has-witnessed the same et'rug le,. 'eome-
' times accentuated vhyttragio
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whose ~of the Gracchiiin Rome. The contest
for the land shook the Banana. Republic to its centre in. various periods.,_ It simmered throughout'the middle'agee and in modern
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tical fevolutidn and." upheaval. The great
~ self-governing. Colonies of, Great Britain have > not been free'from agrarian agitation, .'notably
in. New' South Walespwhere free selection
' \(x\) 'hefore survey was the watcthra _f of the
people. The principle soi'strenuouely eiivc'»
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kind has witnessed the same strué 16 , some
times accentuated by tragic episodes like those of the Gracchii in Rome. The contest for the land shook the Roman Republic to its
centre in various periods. It simmered throughout the middle ages and in modern times it has been the cause of many a nobtioal revolution and upheaval. The great self-governing Colonies of Great Britain have not been free from agrarian agitation, notably
in New South Wales where free selection before survey was the watchword of the
people. The principle so strenuously advo~ cated by the late Sir John Robertson was

SAIURbAY, JAVUAM 7, 1905.

Omm 3. The market )8 steady. In sales this week there were 60 bags of \(N\) yassaland
offered and sold. Fair bright red and yellow ish at 48 , dark red at 38 , and mixed yel low and red, home perished at 37/-, 240 bags
of East Coast; African were bought in at 45/ for fair red, and at 37 for mixed fellow pat
peris ed. 53 bales of .Zanzibar offered an 'bou t in at 50 -.

Capsicums were only represented by 1 halo
of Natal which, howeVer, did not change hands.

Gum Amm'i. In sales yesterday 210 pkgs. of Zanzibar was offered and 52 sold. Sorts strong, fair, bold, pale and ambery, with part
small \(£ 910\) to \(£ 9 / 12\) 6, ditto part rough and red \(£ 810\), mostly weak fair hold with part small \(£ 515\), weak medium and small to fair clean \(£ 5\) per cwt., Bean and pea strong
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...w _, ;_.. _ : ;._' of East
Cdfig't'African'WQre boughtin at 45/-
.. Afewwordson thefLandgléoiicy off-
British
' If East Africa. 'i'housani' of xearslago in
the~
" Land'of Canaan the-herclsmen of
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of Zanzibar was offered and '52:eold.
Sorts:-
etrong, fair',' boldeale and amberiywith
part; "
,small £9/10/- to £9/12/6, ditto part
rough and
red }£8/10/1\mathrm{ , 'mostly weak fair hold with
part"
small }£555/r\mathrm{ , weak medium and email to
fair
'clean £5 .per cwt., Bean and'pea strong
pale
£7. per owt., pickin 5 clean reddish with
part
"megiium hold 35/-,' air clean small-to-
medmm
20/- tos25/., low ciark andv'wooiiy pert -
prdi~'
nary 4} to 10/-, Siftings fair,.pale'clean
40/-,
dull to._specky 80/- to 35/-, inferior-19m

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pale
£7 per cwt., piokin 5 clean reddish with part
medium hold 35 -, air clean small to medium
20 to 25 , low dark and woody part prdi nary 4\(\}\) to 10 -, Siftings fair pale clean 40 -, dull to specky 30 to 35 -, inferior 196 to 25 per cwt. ' Copal character clean pale With little reddish 75 per owt.

Hemp. A'rican still continues conspicuous by Its absence consequently prices are nomi
nal In sales this week there were 22 bales of Mauritius offered, and 8 sold at \(£ 815\)
per
ton subject. We quote Mauritius on the
spot good white at 33 ,fair 30 - and common
27 per cwt. '

; Pertinent to our last week's- culling from Trill/'1
touching a certain correspondence-from a Mr.
Anioiuh of Frankfort Chamhm's (to (to, Cape Coast, >1 we auain cu'll' the followimr from tin-1 samc p: 1pc r01""
tlw. Ith I)c1 ember last, our commentton 11hi'cl1"'11i'
once more r11se1'1e; ーー,
"It soon 1113 that the letter from a Mr..\111piah to a
Iondon Tradvsman recently publislwd 1n 'I'rulh is a.

1111' imple of a 1'111'1' common class
(bf-1communications
from that part of tho 11(11'ld. r1111
liusi'ness liniiuns
of the nigger trader are evidently somewhat.
chaotic. ()1111 of them writes to : \(\mathrm{i}^{\text {i }}\) coxrcSponde-nc
whom he addresses-113 11 "book seller and news
Agent. " . ' » -
"Your name 1ivas highly recommended to me by a"
certain f1icnd of 111inc"1ha't you aré the lwst 11'i1ol
manufacturing, so that- I want your _b'umph-:1,
01111111111111»; \{'0 11'0.' " 1 '
"In another case two ingenuous 1miths wrote that: .
they had heard some 111111-11
11111.11 11'1r1- wanted to
learn the hook trflllt' and proposed to come 4."
receipt. of Tickets for second class
saloon passage
to 1England '
"ith sincerc rt-«vrct; 11'11 announce the quite-11n-
timely death of Miss loana Claiisa

4 Perth cut to our last week's culling from Tr: II'L
touching a certain correspondence from a Mr.
Ampmh of Frankfort Chambers Ac (to, Cape Coast, ,x
we again cull the. followtng from thea same paper of"
the tth De ember last, our comment'ou which "(3 i
once more rmerve .-
"It seems that the letter from a Mr.
Ampinh to a
London Trade‘zman recentl\} published in 'I'rulh la a
sample of a very Common class of communications
from that part of the wbrld. I'he huamew notions
of the ni_'_:er trader are evidently somewl at.
chaotic; ()ne of them writes to a correspondent
whom he addresses as a "book seller and news
-\gent. ' 4
"'Your name was highly recommended to me hva
certain mend of mine that \(\mathrm{y} u\) are, the bet \shol
manufacturing. so that I "ant your Samples,
Catalogue, the A'C. '
' In another one. two ingenuouq youthq wrote that:
they had heard some hlflt'k m -n wt-re wanted to
learn the hook trade. and proposed to
C(nne 4."
receipt of Tickets for second Llilfils‘ saloon
pa<<age
to 'Imgland

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Ihoiupsmi whit' 'h \\
occurred on the last d1) of the past \\
113111.. She- 11111: \\
the :11Y11cti11nate dauuhter of Mr. J. F. \\
'Thmnpmn of \\
tho Treasury and niece" of Rev. hggir and har'xi' ter \\
lioli .-\saa1'11. For, sanetime she had 11111111111111 \\
from some malady which certainly newr sag; «\$1111 \\
tin: anticipatit'in of this sad occmrencc. \\
"For '1 dd 1-! \\
«111 h amiahlc and rospectful \\
disposition to 111- ('u[ \\
otl 1 n the tlo11cr of her age is atlhcting \\
iudeo-d 11nd \\
I11_1_1ond what the human pi-n could (lescrilm To \\
the I)('I'Pfl 11 d 'tamily we tender our synipatIn» \\
sincere and unallo1'ed.. \\
I\11od11'o Monsnli, a ch11 er 101mg Bricklmer hrotheruf \I 1'.J J. 1105 of .'Mau inimdiid 1-1111 11-1111 (. 11 \\
the lat inst; It appears he 11115 slightly indisposed \\
I
\end{tabular} & \begin{tabular}{l}
With sincere regret we announce the quite nn \\
timely death of Miss Joana Clarisa \\
Thompqon "I u'h \\
occurred on the la<t d iy of the paxt wir. . \\
She- wag \\
the atl'ectumate dauuhter (i Mr. J. I' \\
'Thmnpmn of \\
the "limiaury and niece of Rev. lag)" and \\
bani zer \\
Koti Amati). I'or sometime she had been \\
ailing \\
, fl'uu] come malady which certainly newr sir meted \\
the .mticiiation (If this «ad occmrencc. \\
"For" girl of \\
such amiahle and rmpectful dispoaition to \\
m-tut \\
otl in the tloaor of her age is atllicting \\
indeed and \\
he_lond "hat the human pen could \\
(lescrhe To \\
the hereaved 'tamily we tcuder our \\
sympathy- \\
(incerc and unalloved. \\
J. \\
Kuodwo‘ Mensah, a clever youn" Bricklmer hrotherof " Ltd J. Kofi Of .Wu innudh-d Nitl Icnh (. u \\
the l-t inst. 1t appcars he "as alightl) iudtspoaed
\end{tabular} \\
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_-Ho'w many. were with us in the field during the past years bivouacking we cannot estimate, but the
fact certainly brings to our remembrance, the recollections of many dear ones whose company and
faces we shall never have the pleasure of sharing
and seeing on earth, for since the divine edict went
out—="Dust' thou art, and unto dust shalt thou re-
turn," it has had its vigorous operation, making no 7
' distinction between great and small, rich and poor,
"lathe man ;of many. surroundings. and 1the orphan".

For it: is' an order that must pass on all men.

Whatever the year 1903 has in store form; is
a mystery known only to the Great and merciful ~

Creator, the Steersm of our destinies. But we must surely be vigilant as become men waiting for
unexpected event, strange appsritions and unpleae- ' ant occurrences, especially in this Gold Coast of ours,"
the land of strange and unexpected .v.sions

At the onset we must wake up from our long and '

Hc'w many were' with us in the field during the
past year's biveuacking we cannot estimate, but the
fact certainly brings to our remembrance, the re
collections of many dear ones whose company and
faces we shall never have the pleasure of sharing
and seeing on earth; for since the divine edict went
out-"Dust thou' art, and unto dust shalt thou re
turn," it has had its vigorous operation, making- no
distinction-between great and small, rich and poor,
_ the man of many surroundings and the orphan--
For it is an order that must pass on all men.

Whatever the year 1903 has in store for us is
a mystery known only to the Great and merciful ~

Creator, the Steersm of our. destinies. But we
must surely, be vigilant as become men waiting for
unexpected event, strange appsritions and unpleas-
ant occurrences, especially in this Gold Coast of ours,'
the land of strange and unexpected .v'smns.

At the onset we must wake up from our long and
miserable lethargy, if we must achieve some good
reforms this year. Our fathers in their time play
ed their part well and we should for 'shame play‘
our part well and as much as lies in our ability, so
miserable lethargy, if we must achieve some good
reforms this year. Our fathers in their time playé
ed their part well and we should for shame play'=
our part well and as much as lies in our ability, so -‘
~ that we might leave footprints worthy ofthe tread.
ing of our immediate succenora, and: at the ,end of .
the year may be able to ejaculate conscientiously
"I have done what I could during the past. ear."

And now, _dear reader, I wish you a hsp and
prosperous New Year.~~
a Yours faithfully,--A'roo.
. of th
which the Anamaboecoi'respondence attempts to
_ hide not thinking- that the public could judge other-
wiseby-the portion'of the correspondent which runs 1
as follows:--" The absence unavoidable or otherwise, of the majority, however had a tendency to compli-
cate matters but those present after much consideration arrived at a resolution.'
~ that we might leave foot prints worthy ofthe tread
mg of our immediate 'succenors, and: at the end, of
the year. may be able to ejaculate conscientiously
'I have done what I could during the past car."

And new, dear reader, I wish yous hip and prosperous New Year

Yours faithfully,--A'roo.
which the Anamabee correspondence attempts to
hide not thinking that the public could judge other

Wiseby the portion of the correspondent which runs
as follows:--" The absence unavoidable or otherwise,
of the majority, however had a tendency to compli-
cate matters but those present after much consid
erstien arrived at a resolution"
Those present being the King of Anamabee and
Chief of Ayeldu insuficient to form a quorum were indeed complicatedin the absence of the majority
and arrived at no resolution though the correspon
dent alluded'to one in his last paragraph--

The Ayeldu chief unfortunately for the corres
pendent let out the names of the King of Annma-
boe and himself as the inventors of the Otsir
convention, at Cromantine and made matters more
suspicions that King Otsihu's messengers
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\hline \begin{tabular}{l}
These present being the King of Anamaboe and \\
Chief of Ayeldu insnficient to form a quorum were \\
A indeed complicatedin the absence of the majority \\
and arrived at no resolution though the correspon- \\
dent alluded to one in his last \\
paragraph-- \\
The Ayeldu chief unfortunately for the corres- \\
pendent let out the names. of the King of Annma- \\
bee and himself as the inventors of the Otsir \\
conVention, at Cromantine and made matters more suspicions that King Ots1bu's messengers were wait- ' \\
_'" ing for him at Ayeldu to hear 'the glad tidings which \\
is the resolution of the Borbor Kings against the \\
King of Abura on their behalf Re. his claim of- the \\
Assign land," hence it was a disappointment to them \\
in consequence of the non-attendance of the Borbor \\
Kings, yet they shall meet again. \\
Both the correspondent and the Ayeldu chief \\
were cunning to omit mentioning the valuable hints \\
\they had that the D. C. at Salt Pond had been or- \\
dared to retire them at once, the actual cause that hurried up the closing of the convention. If the
\end{tabular} & \begin{tabular}{l}
were wait- \\
ing for him at Ayeldu to hear the glad tidings which is the resolution of the Berber Kings against the King of "Abuta on their behalf Re - his claim of the Kenn land, hence item; a disappomtment to them in consequence of the non attendance of the Berber King's, yet they shall meet again. ' \\
Both the correspondent and the Ayeldu chief were canning-to omit mentioning the valuable hints they had that the D C. at Salt Pond had been or \\
dared to retire them at once, the actual cause that hurried up the closing of the convention. If the chrrespondent still insist that some resolution was arrived at, circumstances will prove such resolutien to have been made between the heels and the toes of th King and chief and it ended in vagaries of sounds rocketina.' over the tens of meantic shadintz
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\(\left|\begin{array}{l}\left.\begin{array}{l}\text { out still insist that some resolution was } \\ \text { arrived at; circumstances will prove such } \\ \text { resolutiOn } \\ \text { to have been made between the heels } \\ \text { and the toes } \\ \text { King and chief- and it ended in vagaries } \\ \text { of } \\ \text { sounds rocketing: over the tons of } \\ \text { cilantic shadintz }\end{array} \right\rvert\,\end{array}\right|\)

Mr.
. 79 Mark Lane, London, has the pleasure to
inform Clients on the Coast that he has been, able to make arrangements with Messrs.

Mathews Wrightson \& Co.
of 32 Great St He lens, London E. C.
, of acknowledged standing and reputation, to
take ov er the business carried on by him fer some years past. '
'1 his Firm having a much larger CapitaL and a very efficient staff of assistants, available for
the working of their business,
Customers- will
undoubtedly reap greater advantages than he , i
has hitherto been able to offer, especially las
regards the prompt shipments of Goods ordered '
As the new business will remain under his 1 '
manauement any indents Clients may be pleased
to favour the Firm will as heretofore receive,
his best and personal attention. , '
'Ihanking you for your esteemed
.............................................................

ADVERTISEMENTS , w,'

Mr. Bernard flicks
. 79 Mark Lane, London, has .the pleasure to
inform Clients on the Coast that he has. been
able to make arrangements' with Messrs.
Mathews 'Wn'éhtson \& Co.
of 32 Great St Helens, London E. C.,'
of acknowledged standing and reputation, to
take over the business carried on by him
for
some years past.
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the working of their business, Customers
WIII
undoubtedly reap greater advantages than
he
has hitherto been able to offer, especially as
regards the prompt shipments of Goods ordered.

A: the _new busmess will remain under his -
management any indents Clients may be pleased
to iavour the Firm will as heretofore receive
his best and personal attention.
'Ihanking you for your esteemed cemmands
in. the past and trusting you may do a large and mutually ,satisfactory trade with the Firm


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The 011111 Coast Le \\
dc. \\
_VUI. I. \\
No. '23. \\
THE GOLD _COAST LEADER. rusttsnsn ON SATURDAYS.
\(\qquad\) ..O-Oç-——-- \\
TERMS 50F SUBSCRIPTIONS. \\
( I Div/able in advance. ) \\
Cape Coast. Abroad. \\
Annual ..10/6... ...14/6 \\
11111142111. .5/6... 7/6 \\
Quarter. 3/-.'.. 4/- \\
L. \\
AD \(\backslash\) ERTISING SCALE \\
_:0.——— \\
Advertisements _should be sent to the \\
Office" at Saltpond Road, at least \(\sim\) three- \\
days before the day of publication. \\
Tw'elu lines and under 5/- \\
Additional lint: .. -,'6 \\
Birth Death or Marriage 2/6 \\
bpet 1111 arrangements can be inade \\
for \\
adx e1t1se111e11ts fo1 longer periods.
\end{tabular} & \begin{tabular}{l}
I \\
VUL 1. \\
No "3. \\
THE GOLD COAST LEADER. PUBIIISHED ON SATURDAYS \\
TERMS SOF SUBSCRIPTIONS. \\
(Payable in advance.) \\
Cape- Coast. Abroad. \\
Annual ..10/6... ...14/6 \\
Ilalf ear. ..e/G... .. .. 7/6 \\
Quaiter. 3/ .. 4/- \\
ADVERTISING SC XLE. \\
.'O.' \\
Advertisements should be sent to the Office at Saltpond Road, at least three \\
days before the day of publication. \\
Twelve lines and under .. . . 5/ \\
Additional line .. ... [6 \\
Birth, Death or Marriage "/6 \\
Special arrangements can be made for advertisements for longer periods. \\
111 Communications intended for pub \\
lit-anon should be addressed to the Editor. \\
Business Communications and remit \\
tam-es either in Cheques or Post Office \\
Orders should be sent to the Manager, \\
"Gold Coast Leader" Ol'fice, Saltpond \\
Road, Cape Coast Wést Africa. \\
For copies of the 4,: er please apply to the Stores 01. " :yf ES;E. Anrnun, .iit Chapel Squar' - ' ,tin Street. \\
Messrs. McLa'reii\}; Bros. \\
and Company \\
'of Manchester and the Gold 09\%' \\
prepared \\
to let their \(\backslash \backslash\) ell and completef ed Rooms (modern style) at their .Housés' '_SekOnd1, vi/ "I)idsbury,:' "African," an 1""Victoria" situate at the Market and PoaSie Road.
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\begin{tabular}{|c|c|}
\hline 111 L‘11111111u11ic11tions intended for pub- & Cooks and cooking utdnsils at hand. 1 \\
\hline 111-:1ti'on should be addressed to the Editor. & For Particulars apply to the Cape Coast, Sekondi ind Axim AgenCles, and Head office \\
\hline Business Communications and remit- & :11 '7 Mount Street, Manchester \\
\hline tanccs either in Cheques or Post Office & H. REGINALD. Aiioxoo. A'geizt. \\
\hline Orders should be sent to ..the Manager, & \\
\hline ."Gold Coast Leader" Office, Saltpond 11111111, Cape Coast. Wést Africa. & \\
\hline & Cape Coast, \ov. 5. \\
\hline For copies of the . '71e1 please apply & PUBLIC NOTICE. \\
\hline - "11,28,122. A-nrnun, & \\
\hline ". 1111 Street. & I the undersigned hereby give the public IIIIs \oticc that I own all that piece or parcel of land situate and being between ]\\()liOrkl'zlba and Aboom and bounded on one side by the math leading to Kwabotchay, a pm non of 11 hich is included in the public road, \\
\hline Messrs. McLaren Bros. and Company & on one side .by the road leading to Aboom Wells, 3. pmtion of, which also is included in \\
\hline at Manchester and the Gold COW prepared & the public road, whiéh separates the party 1 mm Brown and Pietersen's and B, 'ofi's plantations, on one side by J. P. Bmwiu land and on one side by James Frys land and the Hausa Cemetery: which said piece\}, or parcel of land was purchased 98 years ago \(Q\) the \\
\hline to let their \\ all and compietef, ed & late \\
\hline Rooms ., (modern style) at their Houses '~ .. & "illam Martin of Cape Coast directii' ih 'om the \\
\hline Sekondi, viz.一;-"I)i1ls1)ttl'\'," "African,"- an & 1.111-1111.111 Chief Quasie 1111.111 of 0*» Coast \\
\hline \begin{tabular}{l}
\#4'3'Victoria" \\
situate at the 1111111111 and Poasie
\end{tabular} & ~11'i1h the knowledge consent and continuance of \\
\hline Road. Cooks and cooking utensils at hand. . 1 & his Headmen and Councillors in this )'form of convevance which I now hold; and that any \\
\hline F01 Particulars apply to the Cape Coast, Sekondi and \xim Agencies, and, Head & p11son or persons found trespassing on the said \\
\hline
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office \\
' : 11 2 Mount Street,M-anchestar, " \\
' H. REGINALD. Anoxoo. \\
" Agent. ' \\
"Cape Coast, Nov. 5. - 1. \\
PUBLIC NOTICE \\
:1 1 the undersigned hereby give the public this \otice that 1‘ 0111111311 that piece or parcel of land situate and being between \\
Konorkraba and Aboom and bounded on one" \\
side by the read:2 leading to Kwabotchay, 12. \\
p111 non of which 1s included 111 the public ro_,ad on one side .by the road leading to Aboom \\
Wells, a portion of , which also is included :in' \\
Petty" \\
the public road, whiéh separates the 1111111 Brown and Pietersen's and B,' \\
1; 'ofi's \\
plantations, on one side by J. P. Browns land \\
:11111 011 one side by James Frys land and the \\
I'Hnusa Cemetery :--whicli 1111111 \\
piece\}, or "parcel \\
of land was purchased 28 years ago \\
"illam Martin of Cape Coast direcfi'h'om the \\
11111.- Head Chief Quasie Attah of '-\1itl1 the knowledge consent and concurrence Of
\end{tabular} & \begin{tabular}{l}
pr-op1rty or any part or parts thereof (except such outlying portions on two sides which now from paits of public roads) will be dealt with \\
according to LAW. \\
her ' \\
CHARLOTTE \(\times \mathrm{M}\) XRTIN. \\
mark ' \\
Cape Coast,'3rd December 1902. \\
Writer and witness to.n1ark, BANNERMAN \IAR'IIIN. \\
' nainely' \\
NOTICE. \\
We the undersigned for ourselves and on be \\
half of the inhabitants of the village of Aguna \\
in the Distiict of Elmina do hereby state for the information of the Public in general that as Kwamina Assa'nkuniah has been destooled he is no longer tlie.Chief of that village. \\
Kofi Essiadoo has been installed in his stead and all communications in reference to that village or any lands belonging thereto are to be made to him as Chief in authority in that village \\
Dated at Cape Coast this .ith day of Deceln \\
Qtow 1\.V'.\.\' a
\end{tabular} \\
\hline
\end{tabular}

\begin{tabular}{|c|c|}
\hline \multirow[t]{7}{*}{\begin{tabular}{l}
stead \\
'all communications in reference to that village or any lands belonging thereto are to be made to him as Chief in authority in that village; '
\end{tabular}} & lii'm \\
\hline & in the future and soliciting the continuz \\
\hline & . 150 of \\
\hline & same \\
\hline & 'JI) \\
\hline & \\
\hline & A \KI', .lg/(i) \\
\hline \multirow[t]{2}{*}{Dated at Cape Coast this 5th day of I)12cce1n~} & "1 \\
\hline & 1:4 \\
\hline & A Piofessional llook keeper many years con \\
\hline ber 1902., 1111211 & nection, desires employment at Cape Coast \\
\hline K111111-111 111111 111'111 1; & or \\
\hline \multirow[t]{2}{*}{Qt ow AN as x} & \\
\hline & elsewhere For Salary 1\'c c., apply .l/iril ( \\
\hline K11 ssx Ass ANKL'M 111 x & '1) \\
\hline \multirow[t]{3}{*}{W 11111215 to marks 11 w ritor of names, marks} & Editor. \\
\hline & \\
\hline & To ALL TC) 1111011 I'I' 111v. cmennxi \\
\hline '1 A711 issukyrr St, & \\
\hline L'upc (1011.11. & The public 'may please take notice that in accordance With the Documents and \\
\hline Mr. Bernard Hicks _ & papers, prohibiting our Evccutmsh'ip to the Estate \\
\hline \multirow[t]{2}{*}{79 Mark Lane, London, has the 1'1112_:1s11rc"to} & of \\
\hline & the late James Quashic of Kwainan 11nd \\
\hline \multirow[t]{3}{*}{\begin{tabular}{l}
inform Clients 011 the Coast'that he has been \\
able to make arrangements with Messrs.
\end{tabular}} & Salty \\
\hline & pond who died on the 3rd.S1-.pt I'ItI at the \\
\hline & 5 \\
\hline Mathews 1Vrightson \& Co. & \\
\hline of 3'2 Croat St. I'lelens, London E. C., ':1 & formcrplace, dated on the SthApiil I'NI' (which ' \\
\hline of 3'2 Croat St. I'lelens, London E. C., ':1 Firm & \\
\hline of acknowledged standing and reputation, to & bears stamping date of 5th \lay 190" No. 163 '09,) Having been given to its the \\
\hline -take over the business carried on \(11 y\) him for & under \\
\hline him for some years past. & signed by the undeiiiicntioncd parties members \\
\hline \multirow[t]{6}{*}{This Finn havimr a much larger Capital, and a very efficient st: 1ti oi .1ss1st 111ts avail.-1111e for the working of_their business, Customers will} & of the rela1ives of the above named deccasc, \\
\hline & Osam, Amba Ekuwa, Ekua Aframba and \\
\hline & \\
\hline & Appiah of'whose letter of administration were \\
\hline & \\
\hline & . duly granted to us by the Divisional Court at \\
\hline
\end{tabular}
\begin{tabular}{|c|c|}
\hline undoubtedly reap great-era1|vantanes than 1112' & Cape C(iilK'tSInce the 17111 day of'l)ecemher \\
\hline T. A. Davis. . . . 1 & 1901. We now give public notice that 111: are \\
\hline CAPE COAST, SATURDAY, JANUARY 3, 19113. & no more Executois and Administiators to the \\
\hline has hitherto been able to 011121, especially as 2 & \begin{tabular}{l}
Estate of the above named decease. In future \\
all letters and legal claims concc1 11 mg it inuht
\end{tabular} \\
\hline ieg'ards the prompt shipments of Goods ordered. & be'sent to the deccascd's relatives alorennn tioned. \\
\hline As the new business will 1c1nain & December 190'. \\
\hline management any indents C111 1111'; may be 1111 used & W. II B. Qinusox \\
\hline to favour th1 Firm will as heretofore receive & \Anamaboe.) \\
\hline his best and personal \(\sim\) a'ttention. & D.1.\'111. A. ansox Saltpond \\
\hline Thanking) 1111 for your esteemed commands & Former Executors and Administrators to the \\
\hline in the past and trusting you may do & above named duccase. \\
\hline 111111112 & \\
\hline and mutually sausiactmy trade with the & Dated at Inamaboe this Ilth day of \\
\hline lirm & \\
\hline & I \\
\hline . in the future and soliciting the continu: & \\
\hline 150 of & V : f \({ }^{\prime}\) \\
\hline & V \\
\hline same. & \\
\hline 'J. I). 1\. \\\{\\\I,---.2|_1 & The Gold Coast Leader. \\
\hline & CAPE CO iST, SATURD AY, JALUARY 3, 1903. \\
\hline A P10112ss1onal I'1ook- keeper many & Price 3d. \\
\hline years con- & Including postage 4d. \\
\hline C11.-.1st o & GENERAL NEWS. \\
\hline elsewhere. I'or-Sal:1ry Kc c., apply -lpril & \\
\hline (",0 & Mr de Graft Johnson gave a breakfast on \\
\hline Editor. '' ' & \\
\hline '10 111.1 To wnou 1'1'111111. coNennst & Sunday the "3th inst at his new building (Kawanupardm) \\
\hline The public may please tak: notice that in accordance with the Documents and & The Masons in town celebrated the festival of \\
\hline
\end{tabular}
111111.211
prohibiting our I1.xecutor'ship to the Estate of
the late James Quashie of Kwaman and S :-1lty pond who 111.211 on the 3rd. Sept. 1'10] :11 the
bears statiiping date of/5th May 1902
No.

1631 02,) Having been given to 11 s the 111111'12rr'
signed by the undcrmentioncd p111
t11.s 111e111bers
of the relatives of the above
11111111211 decease, namely ——:Y:1w Nkum, Amba Kuma, Eku:i
O,sam Amba Ekuwa, Ekua
1111111111111 and Kwa
Appiah of whose letter of administration 1112112
duly granted to us by the Divisional L ourt at
' Cape Coast since the 17111 day of Dccembcr
\\e now give public notice that we are 1
1901.
under his ,
no more Executoi's and Administiatots to the ,.

Estate of the above muncd decease. In future all letters and legal claims concerning it must
be sent' to the deceascds
1'e1ativesal"211112111111-C
tinned;
December 1902..'

St. John's Day on Saturday the "1111 \(£ 111\). to all appearance the Society is in a flourishing condition.

Adieu 1
The llarmattanseason has been rather severe this year Tradition tells us this is an indication of 11
prmperous vear. ,So may it be. "'1: trust it will
help to allay the deadly effects of the Plague and
divers diseases

The Merry go round has contributed largely to the iiierriment of the season.

Some of the Bentsil people who were arrested
the othe rd 1 y have bec 11 sentenced to imprisonment.

The Maknimuhu Club had their yearl1 rct'rea
tions at B. J. liuoli's plantation on the Christmas
Day.
The inhabitants of the Market place and ik vicinity i'll'f' renmving in 1iew of the Victoria Park
11 hich 11ill \tmll be in course of erection. The pity
istln- inadequate sums which are being paid to
house owners, not sufficient, all round, for the
purchase of ground much more for building.

Conimissaiiat House
1111. which from all

There was a ball titrtln'
```

W. 11. B. Q1'.\1sox
'(Anmnaboe)
`,I
D.\.\'11;1. A, Jaexsox-
Saltpond
Dated at Anamaboe this 11111 day 01'
Forum Executors and Adnnnnt: 11101:
to the .
.aboxe named dccensc. ' '"
_ «endow
_f'front 1vround of the Hotel premiscs'
I'rice 3d.
Including postage 4d.
\
GENERAL NEWS.
Mr. de Graft Johnson gave a breakfast
on
Sunday the 23111 inst. at his new
building
(Kawanupardu.) '
The Masons in town celebrated the
festival of
St. John's Day on Saturday the 27111
1111. to all
appearance the Society is in a flourishing
condition.
Adieu 1
The liarmattan season has been rather
severe this
year. Tradition tells us this is an
indication of' :1
prosperous year. . }811\mathrm{ may it be. "'1:
trust it will

```
on the night of the IItlih
appeaiance, came off nicely.
\Ve regret to report the death of ..I. P II. Orleans
which took place at Accra on the 31:11. ult.

A Correspgrulgu; writing from Obuns'ie reports a
serious conflagration there that entailed heavy
losses. besnles laying desolate many buildings.

Another correspondent ertf's from Sekondi,
who after remarking on an unfulfilled promise of
tho Sekmnli Lightrrnge and Hotel Company to
endow the hotel there with 11 \lanageress, com
plains bitterly over the over grown state of the
"front ground of the Hotel premises" with "gra's"
IIIIIn creating ita nursing 1ard for " snakes and
Vt'l'llllgultir feeding the guests. He wishes to
call the attintion of the Sanitarv Inspector to this
and sum't'sts the coiiientin'r of the pav ed "round.

Pertinent to our last week's culling from Trill/'1
touching a certain corr-espondente from a VIr.
Ainpiah of Frankfort Chambers 11m «c, Cape Coast, .,
11c again cull the foll011iiig from tin-s sann paper of"
the lth Dot-ember last, our comment on which 111'
once more rescue.
"It seems that the letter from a "1'. Ainpiah
\begin{tabular}{|c|c|}
\hline \begin{tabular}{l}
- help to allay the deadly efi'cct-s of the Plague and \\
divers diseases. \\
The Merry -go- 111111111 has contributed largely to the merriment of the; season. \\
Some of the 11121111111 poo 1c who were arrested the 01111 r d: 11y have be: 11 sentenced to imprisonment. \\
The Makwimubu Club had their yearly r121 r1.1- \\
tions at B. J. Ixuoiis plantation on the Christmas \\
D: 11y. \\
The inhabitants of the Market' place and its \\
vicinity 1'11'1' r1-moving in \iew of the Victoria Park \\
w 111111 will soon 1112 in course of erection. The pity \\
151111 inadequate sums which are being paid 111 \\
house oun'ns, not sufficient, all round, for the purchase of ground mm 11 more for building. \\
There was at 111111 at/the on the night of the/311111 appearance, came off nicely. \\
Commissnriat House \\
1111. which from all \\
"'O regret to report the death of .1. I'. E. Orleans which took place at Accra on \({ }^{\sim}\) t11e 31:11; ult.
\end{tabular} & \begin{tabular}{l}
to 11 \\
Iondon Tradesman recentl1 publisIn d in 'I'rulh is a. \\
sample of 11 1erv common class of communications from that p 1rt of the world flu business notions of the nii'gcr trader are evidently somewhat chaotic. ()ne of them writes to .1 correspondent whom he addrtsses as a "book seller Agent." 1 \\
"Your name was highlv recommended to me bv 11 certain fiiend of mine that you are the best 110ol manufacturing. so that I 11 ant your Samples, Catalogue do A'C. ' ' 1 \\
"in another case two ingenuous youths wrrm- that they had heard some black men 11'1-r11 wanted to learn the book trade. and proposed to come 1." \\
receipt of Tickets for second 1lass saloon passage \\
to 'I'higland " \\
and news \\
,1 \\
With sincere regret 1111 announce the 111111111111 \\
timely death of Miss Joann Cliii'isn Thompson which occurred on the last day of the past year 1 She- was the affectionate daughter of Mr. JWF 'Thmnpsmi 111' \\
the Treasury and niece of Rev. Efzyir 11nd "1111'qu \\
Ixoli .\511ai'n. For sometime she had been ailing
\end{tabular} \\
\hline
\end{tabular}

```

"It seen ms that the letter from a Mr..-
\1npi:1h to:1
Iondon Tradesman recently published 1n
Truth 15 a
sample of a verv common class of
communications
from that part of 11112111111'111.
Thebusiiiessnotions
of the nigger trader are evidently
somewhat
chaotic. ()ne of them writes to :1
correspondent
whom 11c addrtsses 11s a "book seller
and news
Agent. " 1, ' _
"Your name was highly recommended to
me 111 a
p
. -. certain friend of mine that you are
the 111st 1.1.1.1
formerplace, dated on the
81hApt'i11'1112 (which. 2
manufacturing, so that I want your
_b'amples,
0111.111111u12,1112112c. ',
"'In anotherc use two ingenuous \ouths
wrote that il
they had heard some black 1111211 111
r1 wanted to
-It:Irn the Imok trade. and proposed 111
come (1"
receipt of Tickets for second class saloon
passage
to '1'. 111111111111'
"11h sincere r1«_,vret we announce the
111111111111
timely death of Miss Ioana Chirisa
Ihompson 111111111
occurred on 1111. 'last day of 1111- past

```

. I December] t.

I 'precincts of the town.

91 we ask the cause of this frequ
2.
~ for a few days. c..We' tender our heartfelt aym.
pathy to the bereaved family

Number of deaths for the week 111 registered at 9.

We deeply regret to have to record the death
- of Mr Francis Chapman Grant which took place
at the Salt Pond House this morning. The Masons
and the Foresters attended his funeral which took.
place in the evening. 1 '
_ Mr. J. D. Abraham also lost a brother the day
- before (Friday) Anan he was called, a bricklayer

The bereaved families have our sympathies

11ovsusivr'si'os 'srsmsas
2.

THE GOLD COAST LEADER. .

J as. 3, 1903.
for a few days.r.We tender,our heartfelt aymoi nights. I What can three policemen do at such a flown into the batman from; whence it will
pathy to the bereaved family

Number of deaths for the week is registered at 9.

We deeply regret to have to record the death
of Mr. Francis Chapman Grant which took place
at the Salt Pond House this morning. The Masons
and the Foresters attended his funeral which took.
place in the evening.

Mr. J. D. Abraham also lost a brother the day
before (Friday.) Anan he was called, a bricklayer

The bereaved families have our sympathies.
movements or. srssusas.

OUTWARD.
Due at Cape Coast.
Cameroon S. W. Coast service Dec. 30
Sekondi S. C. Express service J an. 5
Warri Opebo service ,, 8
Accra Brass service ,, 11
Burutu Lagos Express service ,, 12
Egs anga Opobo servrce ,, 22
Coomassie Brass service ,, 25
Volta S. W. service ,, 27
' HOMEWARD.
Loanda Brass servrce Jan. , 1
```

_ . . Due at Cape Coast. I
Cameroon
S. W. Coast service Dec. }3
Sekondi S. C. Express service Jan. -5
' Warri ' Opoboservice '' "' ,, . 8
Accra Brass service ,, 11
Burutu IILlagos Express service ,, 12
"Eguanga Opobo service " ' ,, ' .22." ' '
Coomassie Brass service . ,, }2
Volta S. W service . ',, 27
' HOMEWARD
Loanda Brass service Jan. ..
1
Boma ' Opobo Service ' ,, 4
, Olenda South Coast accel: service ,,14.
~Fantee South Ceast Express Service ,I,
9.
Tarquah South Coast Express service ,,
23
m
ISEIKUNDI.
(F3011 our: Conansrounsx-r.)
We regret to report the death of Dr
Sanderson,
who among other passengers from
England by the.
8..,S Targuah arrived on the 9th ultimo.
The '
_ (lece'ased touched the' tropical soil
only within an
hour and a half and died unexpectedly.
His
bereaved people have our
a31i1patl1ies.. .
I was startled from bed at 8 p.m. the
other day
by the roar of a cannon and at early
dawn .he
"Ville Beat for which that signal was

```

Bonia .«Opobo Service ,, 4
Olenda South Coast accel' service ,, 4 .
- Fantee South Ceast Express Service ,. 9

Tarquah South Coast Express service ,, 23
.SEKUNDL
(Prion one Coannsronnss-r.)

We regret to report the death of Dr.
Sanderson,
who among other passengers from England by the
S. ,S. Targuah arrived on the 9th ultimo.

The
deceased touched the' tropical soil only within an
hour and a half; and died unexpectedly. His bereaved people ha've ou'r sympathies. .

I was startled from bed at 8 p . in. the other day
by the roar of. a cannon and at early dawn
the
"Ville Boat for which that signal was made, turned
out to be a craft. The officials who hurried to
the beach at 4. 30. that morning with the hopes of
welcoming His Excellency, the Governor on board
the Philippem'lle were not only sadly disappointed, but
rightly served, the signalman
havingbee'nfipgciently
pressed to do that duty, and as a matter of
fact
His' Excellency did not land here as was expected.

The Case Rea: 9. Grant terminated in the acquittal of the accused on Tuesday the 16th
December 1 t . We hear a fresh warrant has been
issued aga' t Grant for a second act of felony and the police are fishing up every quarter of
\begin{tabular}{|l|l|} 
& \begin{tabular}{l} 
made, turned \\
out to be a craft. \\
the beach at 4. 30. that morning with the \\
hopes of \\
welcoming His Excellency, the Governor \\
on board \\
the Philippem'lle were not only sadly \\
disappointed, but
\end{tabular} \\
\begin{tabular}{ll} 
I_rightly served, the signalman \\
havingb'ee'ngpgciently \\
pressed to do that duty, and as a matter \\
of fact \\
His Excellency did not land here as was \\
expected. \\
every \\
reason to believe that it is 'the action of a \\
secret
\end{tabular} \\
Agency But it is a pity that people can be \\
found \\
to be so silly and ignorant as to believe all \\
such \\
trash and follow up the instigation, purely \\
sentimen \\
tal, of simpletons and avengers who simply \\
do that \\
to give "Roland for an Oliver."
\end{tabular}
\begin{tabular}{|c|c|}
\hline population demands in a permanent way an & which most of the interruptidns occur. \\
\hline "adequately good number of latrines after the & A party of railway officials headed by the Chief \\
\hline fashion of those at Accra and Cape & ' Resident Engineer left by train this \\
\hline Coast. This. & incrniug for the interior. The expedition, as understood \\
\hline , should be supplied before a stop to all this nuisance & is to arrange matters as regards traffic on the \\
\hline in the outskirts of the town could be & line now \\
\hline reasonably & opened to Obuassie. A very noble work! \\
\hline effected. & \\
\hline \multirow[t]{4}{*}{Of late there have been frequent interrupt' the Telegraph lines, but .Iduring the week had enough to sicken our souls. .From} & \\
\hline & .1. \\
\hline & \\
\hline & . (Fae: onii Coaassrosnsicr.) \\
\hline & , The local Soho-or as vacated on'the 15a. ultimo \\
\hline \multirow[t]{2}{*}{```
"unpleasant
_ occurrences ?' If not from Fdremap',
of
```} & for the Christmas ho idays. ' \\
\hline & A burglary was committe at the store of a \\
\hline Telegraphs, we may rightly ggest to the & Tailor Lawrence on the 23rd ultimo. The \\
\hline Govern- & thieves \\
\hline ment the necessity ofa ranch cable being laid & have not al et been discovered. We would suggest that tc authorities provide this \\
\hline & suggest that t c authorities provide this place \\
\hline connecting Axim and/ he place, between which & \\
\hline ' most of the linterruptmns occur & \\
\hline \multirow[t]{2}{*}{A party of railway officials headed by the Chief.} & densely populated town? \\
\hline & \\
\hline & We regret to learn of the indisposition of \\
\hline ' Resident Engineer 1eft by train this 'mOrniugl for & \\
\hline .-the interior. & Superintendent Minister of this Circuit. We Wish \\
\hline opened to Obuassiea & him a speedy recovery. \\
\hline All very noble work! & The Sunday. School .work here has not been lack ing in interest. Mr. T. M. Bilson its indefatigable Superintendent is working assiduously and \\
\hline
\end{tabular}

\begin{tabular}{|l|l} 
& \begin{tabular}{l} 
The Sunday. School .work here has \\
notbeen lack- -
\end{tabular} \\
\begin{tabular}{ll} 
ing in interest- Mr. T. M. Bilson its \\
indefatigable \\
Superintendent is working assiduously \\
and conse- \\
quently the walk done by the Scholars 1a \\
of a
\end{tabular} & \begin{tabular}{l} 
Mr. Matteer died on the 18th of last \\
month.
\end{tabular} \\
The S. S. Cameroon is due here on the \\
99th; \\
according to the latest arrangements cargo \\
boats \\
in the Southern Windward Service are to \\
make the
\end{tabular}



\begin{tabular}{|c|c|}
\hline \begin{tabular}{l}
doctor and the fool-all have joined in the uni- \\
versal jubilation. ., \\
. And so we, are upon. the threshold of the. \\
New Year. The old year—the year 1902 has \\
.1, \\
unfair as compared to what it used to be. \\
.because more money 18 Wanted for travelling \\
lian'd duty allowances br there is an urgent \\
'11s. 3, 1903. \\
\(A^{\prime}\) \\
.IflOWDI into the bourne from. whence it will \\
' never return, and with it, its joys and sonbws, \\
~; its failures and successes, its disappointmehts, \\
"its bereavements and losses-wrhatever w‘e lllave \\
done and suffered Still there should be no rea- \\
son to dispair. Now is the time to profit by \\
past experiences, and to be better nerved to face life's struggles. Withal let us have hope \\
--hope which IS much needed 111 the slt1esa and gloom of whatever betide. \\
But for all that we will not omit
\end{tabular} & \begin{tabular}{l}
' Church; of England speaking at a meeting held \\
at Manchester by the members of the Society \\
formed there for the Protection of Native Races said: "There were three things they were \\
bound to endeavour to aim at. First we \\
'should aim atjustice in every part of our Empire ~ \\
Without reference 'to colour or creed. Next we \\
should feel that we were charged with the duty \\
of bringing all the best influences of civilization \\
for the benefit of all those populations which belonged to‘ our Empire. But our greatest responsibility of all was to endeai our to carry into those populations those blessings of the \\
Christian life which are the greatest blessings \\
in our own homes and lives." \\
W hen we look at how we are governed out here, when one sees what is going on around us when we observe the doings of the reprc sentatives of this Empire the Bishop speaks'of, \\
what a vast difference' there seems to exmt between the actions of these men and the noble sentiments expressed here? Is it the fault of .the men 01 the policy they bavc' to pursue out here that this difference we speak of exists?
\end{tabular} \\
\hline
\end{tabular}
```

mentioning"
the fact that the old year had been a
very
and one to the community; young and
old, rich '
and poor, have all been called to the
world un-
known., .
To all who have suffered during the year,
the Leader tenders its heartfelt
sympathy, and
prays Him the friend of 301101111 to
grant them
hope and consolation.
But while tendering to all our friends far
and near the compliments of the season,
we
take the opportunity to thank ou1
subscnbers
and other sympathetic friends who have
testi-
fied their appreciation of our services by
pay-
ing up their dues promptly and relrularly.
It
is our sincere hope that there will be a
Stimulus '
to greater energy and determination for
p1 os-
perity and success.
Thanks to goodness! Our detractors
before'
this paper was launched, predicted but a
short
career for it, many were loud in the vain
aa-
sertion that it would not reach a
successful
career-nay, that it would not survive ,a
few

```

Can there be no remedy if we must be made
willing, and cheerful subjects of the British

Throne, that is, if 'we are to be accounted as
part of the Empire.

We'do not consider the treatment which has
been-given to the Bentsir-people, arrested the .
other day, fair or right. This handful of men have been fined \(£ 70\), or imprisonment, what
for, we cannpt tell. How easily the Government
chest can be filled. But' what is their charge.
And we are told that the ofiicervs'ent to arrest
them in the way fired .into them. This is a serious affair and we hope 'His Worship Mr.
Peregrine will look into it.

The report goes that the men refusing to pay
,this amount (fourteen of them )werc starved,
probably to make them pay. Food is not supplied' them nor would their people be , allowed to take food to them.' The observant
ones among us think that the treatment now
given to' the natives is very hard and most unfair) as coinparyedto What it used to be.
It is
because more money is wanted for travelling
'and' duty allowances far there is an urgent need for prison labour. '
\begin{tabular}{|c|c|}
\hline & \begin{tabular}{l}
days of its existence. But, be it to their dis- \\
credit, the "Gold Coast Leader" has had the
\end{tabular} \\
\hline & Ihlappy fortune to see these gloomy p1ognoa~ \\
\hline & tics belied. The "Leader" yet lives It hasnot given up the struggle for existence" It means duty and given duty, its destiny rests with the Great Director of ev cnts. Good by e!. \\
\hline & About four years ago a dignitary of the \\
\hline & _'Church of England speaking at a meeting held \\
\hline & at Manchester by the members of the Society \\
\hline & formed there for the Protection of,Natwe \\
\hline & Races said: "There were three things they were' bound to endeavour, to. aim at. First we \\
\hline & ' should aim atjustice in every part of our Empire ~ 3 \\
\hline & \begin{tabular}{l}
without. reference 'to colour or creed. \\
Next we \\
should feel that we were Charged with the duty of bringing all the beat influences of civilization
\end{tabular} \\
\hline & \(\sim\) for the benefit of all those populations which \\
\hline & \begin{tabular}{l}
belonged to our Empire. But our greatest responsibility of all was to endeax our to carry . \\
into those populations those' blessinus of the '
\end{tabular} \\
\hline
\end{tabular}

Christian life which are the greatest blessings
.in our own homes and lix cs.'

W hen we look at how we are governed out
here when one sees what IS coins; on . 11 ound us'
when we observe the doinus of the repre-
'sentativ es of this Empire the Bishop speaks of,
whata vast difference thexp- seems to exist
betw eon the actions of these men and the noble sentiments expressed here?
here that this difference we speak of exists? \({ }^{\prime}\)
Can there be no remedy if we must be made
willing, and cheerful subjects of the British \({ }^{\prime}\)
Throne, that IS, if' we are Ito be accounted as part Of the Empire.

Weldo not consider the treatment which has'
been- given to the Bentsir-people; arrested the .
other d 1y, fair or right; This handful of men have been fined \(£ 70\), or imprisonment, what
for, we caant tell. How easily the Government chest can be filled. But what is their charge.
' And we are told that the officer sent to arrest
them in the way fired into them. This is a serious affair and we hope 'His Worship
\(\left|\begin{array}{l}\begin{array}{l}\text { IMr. } \\ \text { Peregrine will look into it. } \\ \text { The report goes that the men refusing to } \\ \text { pay } \\ \text { ',this amount (fourteen of them) were } \\ \text { starved, } \\ \text { 'probably to make them pay. } \\ \text { Food is not } \\ \text { supplied them nor would their people } \\ \text { be' } \\ \text { I allowed to take food to them.' The } \\ \text { observant } \\ \text { ' ones among us think that the treatment } \\ \text { now } \\ \text { given to the natives iavery hard and } \\ \text { most " } \\ \text { It is } \\ \text { need for prison labour. } \\ \text { Is it the fault of " } \\ \text { the men 01 the pOliCy they have to } \\ \text { pursue out }\end{array} \\ \hline\end{array}\right|\)
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his head to have arrested.
Jim's; 1903. ',
Really what is going on now in these
days is
most un-English. .''
It is true that "economy is no disgrace,"
but
that economy» which makes"
Government Offices
' stand in sore need of stationery is most
disgrace-
f 111 especially if'we look atit at the
way, fines (and
heavy fines too) are inflicted for every
mortal
thing, no matter how trifling, it may be.
Is
Governor Nathan also likely to
disappoint us
as a Governor? What is there on
The'Gold
Coast which works such changes in our
Gov-
ernors.
Lastweekwe reported in our News
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that Dr; Murray had. Mr. Aycnsu
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shooting at some pigeons in the front of
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house, and, the doctor himself has ,3
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daily shooting at them. It is alivay's' an
un-
pleasant task for us to call into question
the
action of an official, and it is far more so
for us
on this occasion to dose when it is the
doing of
one wllOm we have always" respected
and consi-
dered to be one of those "officials who
command

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JAN. '3, 1903.

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on this occasion to do so when it is, the doing of
one wheat we have always respected and consi-
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our respect. Why did the doctor bag the gentleman arrested? Does he held a monopoly
over the birds at the Connor's Hill, or hold a
libense for them. It seems that any official Can ask for the arrest of any one he puts into
his head to have arrested.
\begin{tabular}{|c|c|}
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GOVERNOR NATHAN AND SRGREGATION. \\
Anent the 'W'es't African governors 'it is_much to be regretted 'thatVSic MATTHEW Nauru who had made quitearéputation'at'Sierra Leone for practical sympathy with the native, should have deviated from 'this policy and taken up the idea of segregation which isopposed in principle to the basic idea of government. \\
Government \\
covers all and places all upon an equal plane, \\
while segregation separates a particular class ~ \\
for special treatment ' and is in direct conflict \\
with the equality of treatment ' idea; The fact, \\
\isno government which true to its tradition \\
would undertake to set up a plan of segregation and the segregatiOn scheme adopted on the Gold \\
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arrangement in the United States. A policy \\
of \\
the kind can hardly be esteemed helpful in the \\
way of consolidation as it is bound to produce \\
the unfavourable impression with the native \\
that the government means to set up a line of \\
discrimination between its constituents. \\
Such \\
an idea is not calculated to inspire \\
confidence \\
and loyalty with the people, and the
\end{tabular} \\
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of
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promo-t
ted in'West Africa,and British rule
consolidat-
ed, but by a policy of understanding
thenative
and getting ' into touch with him and
inspiring '
his confidence.-'-La.gos Redord, Dec.
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THE "ARRIv-AL OF GOVERNOR v
KING-HARMAN. , ' -.
The "heart-y welcome" accorded Sir
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THE ARRIVAL OF GOVERNOR
KING-HARMAN.

The hearty welcome accorded Sir KING-HAR-
MAN by the people of Sierra Leone o'n his return
from furlough testifies to the/fact that in some
., way or other Governor KING~HARMAN has ac-L '-
quired a strong hold upon.the affections of the
peeple. It is the prerogative of a governor, and
indeed ought to be his first object and duty to
acquire such a hold, for it shows more than any-
' thing else that he has been administering the
government wisely and well in the interest
of
thegoverncd. The people do not take to a
governor for nothing but are attracted by
the
sympathy which he evinces in their welfare
ex-
pressed in the practical form of a policy
direct-
ed to promote the interests of the people. It is
\begin{tabular}{|c|c|}
\hline his return from furlough: testifies to the/fact that in some & not given to every governor to inaugurate such a policy, which is dictated by a deep regard for \({ }^{\prime}\) \\
\hline way. or other GoVernor . KING~HARLiax has ac?- & the governed. This regiird is the, test which the native applies in the adjudgment of the new" \\
\hline quired a Strong hold "WWW?" affections outs & governor whose every act and action as relat- \\
\hline peeple. It "is the prerogative 'of governor, and & ing to the native of whatever degree is watched" \\
\hline indeed ought to be his firstlobject and & with the closest scrutiny, and put either to the \\
\hline .dutyto & governor's credit or to his discredit. In this way a general opinion is formed and the \\
\hline acquire such a hold, for it shows m & \\
\hline than any- & ernor who shows by his policy and treatment of \\
\hline & the nati 'e that he is influenced by an \\
\hline administering & \\
\hline & spirits \(d\) an honest and genuine desire to \\
\hline govern'ment'wisely and well in the & do \\
\hline interest of & justiceto all 'alilic, will not fail to acquire a \\
\hline tllegoverned.- The people do not take & strong hold in the affection of the people. The \\
\hline governor for nothing but are attractedby the & greeting accorded .Sir KING-Harman stamps \\
\hline sympathy which he evinces in their welfare ex» - & THE GOLD COAST' LEADER" \\
\hline pressed'in the'practical form of a polic & him as a governor of the right stamp, and one \\
\hline direct- & whom the peopie of Sierra Leone believe in \\
\hline ed to promote'theinterests of thep'eOple. It is * & and can rely upon, and so his work of admin- \\
\hline & \\
\hline - not given to everyxgovernor to & effective because it will has co-operative \\
\hline inaugurate'such-. & work, the people working with the governor and \\
\hline apolicy, which is dictated by a deep regard ,for 1; & the governor with the people. No doubt nor \\
\hline the-governed. , This regdrd is the; test & discord can enter into such aplan of adminis‘ \\
\hline which & tration for the simple and sufficient reaso \\
\hline .. the native applies in the adjudgment of the newgr. & that the desires and needs of the people con- \\
\hline governor whose every act and action as rel-st; & stitutes its inspiration and object—Lagos Re- \\
\hline
\end{tabular}
\begin{tabular}{|c|c|}
\hline \begin{tabular}{l}
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"dth the'closestscrutiny, and put either to the goVernor's credit or to his discredit. In this way a general opinion is formed and the gov- \\
ernor who shows by his policy and treatment of \\
, the nati 'e that he is influenced by animpartial \({ }^{\prime}\) \\
Spirit's d an honest and genuine desire to'do \\
' justiceto all 'alilie, will ndt fail to acquire a \\
strong hold 'in theafl'ection of the" people. The greeting accorded .Sir Kine-Hamlin stamps \\
to \\
'r \\
' THE GOLD COAST? LEADRR; \\
7 \\
him as -a governor of the rightstamp, and one. \\
whom the peopie of Sierra Leone believe in \\
and can rely upon, and so his work of admin- \\
istration will be rendered easy as well as effective because it will has cooper'ative work, the people working with" the governor .and the governdr 'with the people. "No doubt nor discord can enter into 'such aplan- of adminis' \\
tration for the simple and sufficient
\end{tabular} & \begin{tabular}{l}
cord, Dec. 27'. \\
REUTER'S TELEGRAM. \\
Dec. 26-Venezuela has agreed to submit the dispute to the Hague Arbitration on condition that the blockade is raised and fleet restored. \\
Portion of the Somaliland fierce has proceeded to \\
Obbia, Italy agreeing to facilitate disembarkation. \\
\(\backslash\) \\
TO CORRESPONDENTS. \\
Intelligent correspondence on matters of interest touching the welfare of the Country is invited. \\
' We do not however hold ourselves responsible for the news or opinions that may be expressed by our corres pendants. \\
Anonymous letters will not be attended to, or returned. \\
A nom tie-plume or initials should be given if it is desxred that the real name shall not appear in the paper. \\
Name and address must accompany all communications as a guarantee of good faith. \\
Communications must reach the Oflice not later than \\
Thursday. \\
Rejected communications cannot be
\end{tabular} \\
\hline
\end{tabular}


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an_important_part'
in the making 'of this Country, socially.
oi:
"morally" the year is .gone with all our.
deeds"
'(or . misdeeds). shortcomings, or
~dereliction of
duty.''.',_,
We may as well consider such.
thodghts'jas..
Ethese: As a native of die soil, or
otherwise,
{have I' done nigduty, according to my
position,
influence or knowledge? «j
Hayeflrserved my--
--self,', my' people and Countiyfas' I
should. -
'Whatever the answer to these _may be,
'1902 has j
taken it along with it, .to Him whose we
are,
and, to whom all in the flesh are
accountable. -.
i To day we ,stand' on'fthe threshold of-
another year-441903.! None of us has
travel].
ed this way before. Is it» likely: that if".
spared, we shall go over the same read
again
~ lean that we) may have todo, or. that
mdy, be.
\&.,,é:tpec'ted"of us ?' "Or are we going
to'retrieve <'
'leSt' opportunities"? "The' times . are
he. 9".
That is'the hry -now. What'are five
going" to
do. then. Tradiiig .or 'honcession'ing'
should
not and ought n'otto be tlle'Vonly
business we
should interest ourselvesin, we are
to'tiee and b
'..not merely existiwdf we mustrise
asapeople .-
we must not be ashamed of' labbur-
not
refined labour as it were, but hard,

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time we gave manual labour some attention,
andthc other industfies-in the Country'claimed '
_our serious attention. Even those' who' are
engaged in trade are ever crying, Trade is 'dull, and yet they will not stir, to see the phase of things altered.
ed, and the'finding out of'the "how" will solve
I the problem. The only charge often laid at our
door by those who look at us with the eyes of
twenty centuries' civilization is laziness.
'We
rightly resent this. ' As a, people we are not,
' but' when we must depend on them entirely for
' everything and allow ourselves to be wholly

Or are we gomg to retrieve <

How, it may be ask- '
'3.
anglicized, lazy people e shall always be .to them. Think this outiforxyourself. 'Heaven. helps those who help themselves' is a trite say-.
ing, but the truth it enunciatea is as old as Methu'selah.' '

Then the politician: we must ad ' t , that the political atmosphere of this Coun is inimical to the growth of any one who in K interest himself in the politics of the Country.
Everything is against him, and he becomes at
once a marked man. Men whose sires have fought for their liberty, and they themselves

\begin{tabular}{|c|c|}
\hline \begin{tabular}{l}
Intelligent correspondence on matters of interest .- ~ \\
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them. Think this outlforxyourself. -- \\
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Everything is 1 against him, and he becomes at once a marked man. Men whose sires. have fought for. their liberty, and they themselves \\
delight in seeking for their rights a1'e able to' consider azperson who does the same thing .for \\
his Country, a disturber in Israel, or impedi-a \\
ment in their way, ,one whom they may strangle at the least opportunity, forgetting \\
probably, that patriotism exists as surely in \\
the breast of the black as it. does in theiwhite \\
or in the Asiatic. But :He' who defends the \({ }^{\prime}\) \\
cause'of the, RIGHT, and.'who defended. the. \\
cause of - their fathers, lives, audibill defend- \\
Ours, however. gloomy. and dukMngfiay -d
\end{tabular} & \begin{tabular}{l}
actions. \\
But becauseour movements are closely~ watched and reported on, because 'our doings are always groasly misrepresented, because cartloads of falsehood are doled out to our disadvantage, only to serve as stepping stones for them to "rise in the favour of Milord so and so, or \\
Sir Knight, or his armourbearer, when woare not actuated by any ill feeling against/any one or evil intentions in what we do, but to see that We \\
,'are not unnecessarily trodden upon,.sball_we be \\
disloyal to the Fatherland? We are.» \\
always \\
talking of oppression, and finding fault. \\
with \\
this and that, what'elsecan it be when we are: i \\
so dead to em" own interest, and \\
audit/traitors to \\
ourselves and Country. We wish for ourselves \\
'a better ("New") year. \\
Why cannot thisyear witness a deeper, and keener interest, in our politics, education, and industry? his true there seems to be a" policy existing amodgst us which has for its watch- \\
fward, "Down with the blacks" in the govern~ \\
mental or mercantile world, it is true that our .worse enemies are from our own ranks, it is true \\
that we see no streak of light in our dark cloud,
\end{tabular} \\
\hline
\end{tabular}
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..seem._.f_9r.heisfioerespectenmm
"we may-add, no. respecter oféracesddr
He.'
made ., them all. Mightemay beat%
right,~~but
Truth will prevail. " All and everything
depend-
on ourselves. :Who does not know that
in this
Country. things are done which cannot
be
dreamt. of in any of the
Coloniesmnderthe
system" of.- the Crown Colony Policy?
Why,
.this high ha'ndedness which is displayed
in
everything done by the'P-owers that be,
with,
"BS: Why this oppression .thatha's
beenfeiiist'g'
mg so long amongst ligand is now
ridi'n'gired-
shot in our midst? Because we are
against
each other, ourselves: because the
foxes, the
little foxes, (the ,native informants) spoil
our
Vine.._We" cannottell whatamonnt
ofmischief,'
f these 'havéidone and are doingyin the
.C'éuntry?
/But we judge .norz'one; They: have
judged and;
are. .judgingjx'themselves by their -oWn.
actions.
But becauseOur movements`are-
closely'watched > p
and reported out-because our-doings '
are
always grossly misrepresented, because
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toourdiB-m '
advantage, only to serve as stepping

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and if anything, things are getting worse'and.
worse, whilst they'are, represented differently
elsewhere which makes, us to appear to

\section*{exist}
for nothing else but to be everlastingly creaking
and finding fault, and it isalso true that it seems -
that things shall ever remain as they are of which we are always complaining but we

\section*{ought}
not to despair of anything, but rather be more
united, and true to ourselves and Country, and
seek not to win the favour of any one; we do not
ask you to set yourself against any one, we
ask
you to herve your day and generation better?
this year, andwtherc are man'gways
through
which you can do this. ' A HAPPY, AND
PROSPEBOUSV NEW YEAR [to all!
m
' soRuTnvEEa.

Once more the solemn tinkling of the midnight
bell reminds us that we have been immerge'd into
another yeir. 1313;401:- 1902 with all its advan-
tages, glories, blessings, wo'es,
temptations, happy
and mournful events has passed may,
gone, gone
'for ever and rolled into otmityl. '
Whatever to."
did whether moral or immoral is put recalling,
mending or redeeming, -We are not to look mourn-
fully into the.th \(u\). it comes not back again.
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stones for'
«'themrto "rise. in the favour of
Milord'so and so, or -'
Sir/Knight, or his'arrnourbeorer, when
weare not - .
, actuated by'any ill feeling againsVany,
oneor 6V1}
intentions in. what. 'we.d_o,..but to. see.
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with
Jthisand-that, what'elsecan it .be when
we'aréézt.
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'AND'
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._. -- ~
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another yoir. Thfibjyeorrmm with all» its
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tages,-_ glories, blessings, wo'es,'
temptations, happy _
and neonatal. events has pouodgxowo'y,
gone, {one '
'for ever and "rolled- iutq eternityl.
"'Whlttflilr-xy)" -
did whether moral }1\mathrm{ or immoral ' is post
recalling,

- menkling'br, redeemingg -We'

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.\(\backslash ;\)
'. his eyes towards the town, he perceiv
"Oh my!
' exclaimed.
' means of producing this big fire. For the next \}
' made a fine hau1,. hp
.4:

B'ut though we are not to look into what has
been perpetrated and gone, it is not required of us
to- continually sit unconcerned in this chronic state
0'f1uactivity., ~
deav our to lead s‘uch lives that each succeeding day
may seem better and more profitable to us indivi-
dually and to our generation. . .

We have surely left undone those things which
we ought to have done both in our religious, poli-
tic'al and social duties. And' on the other
hand we
have not left undone such onormities as indulging
in petty prejudices, willingly and
unwillingly be-
traying day by day our nation, in exhibiting mark-
ed and perpetual indifference towards our political.
, interests, and' 1n engaginng profitless sp1tefulness '
and woful cupidity.
4.
' But though we are not to look into. what has
been perpetrated and gone, it is not required of us '
. to-continually sit unconcerned in this chronic state
of inactivity.,. But this much admonishes us to en-
deavour to lead such lives that each succeeding day
may seem better and, more profitable to us indivi
dually and to our generation.
,We have surely'left undone those things which
we ought to have done both in our religious, poli-
tical and social duties. And 'on the other hand we
have not left' undone'such enormities as indulging
in petty prejudices, willingly and unwillingly be-
traying day by day our nation, in exhibiting marl:-
ed and perpetual indifference towardsour political
interests. and in engaginng profitless spitefnlness
and woful cupidity.

Hc'w many were' with us in the field during the
past year's bivouacking we cannot
estimate, but the
fact certainly brings to our remembrance, the re-
collections of many dear ones whose company and
faces we shall never have thé pleasure of sharing
and seeing on earth; for since the divine edict went
out-"Dust thou' art, and unto dust shalt
ch'w many. were with us in the field during the
past years bivouackirig we cannot estimate, but the
fact certainly brings to our
remembrance, the re-
collections of many dear ones whose company and
faces we shall never have the pleasure of sharing
and seeing on earth, for since the divine edict went
out-="Dust' thou art, and unto dust shalt thou re-
turn," it has had its vigorous operation, making no,
' distinction betweeii- great and small, rich and poor,
tJe man 3.1 many surroundings. and .the orphan".

For it: is' an order that must pass on all men.

Whatever the year 1903 has in store form; is
a mystery known only to the Great and merciful ~

Creator, the Steersman, of our destinies.
But we
must surely be vigilant as become men waiting for
unexpected event, strange apparitions and unpleas- .
ant occurrences, especially \(1 n\) this Gold Coast of ours,"
the land of strange and unexpected .v.sions

At the onset we must wake up from our long and.
miserable lethargy, if we must achieve some good
thou re-
turn," it has had its vigorous operation, making no
distinction» between great and small, rich and poor,
the man of many surroundings and the
orphan--
For it is an order that must pass on all men.

Whatever the year 1903 has in store for us is
a mystery known only to the Great and merciful
Creator, the Steersman, of our. destinies.
But we
must surelybe vigilant as become men waiting for
unexpected event, strange apparitions and unpleas-
ant occurrences, especially in this Gold Coast of ours,
the land of strange and unexpected .visions.

At the onset we must wake up from our long and miserable lethargy, if we must achieve some good
reforms this year. Our fathers in their time play.
ed their part well and we should for 'sheme play
our part well and as much as lies in our ability, so
that we might leave footprints worthy ofthe tread.
ing of our immediate scanners, and: at the end of .
the year. may be able to ejaculate
conscientiously
"I have done what I could during the past
car."
And now, _dear reader, I wish you a hip and
prosperous New Year.
Yours faithfully,--A'roo.
```

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time play?
ed their part well and we should for
shame play'=
our part well and as much as lies in our
ability, so -'
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And now, _dear reader, I wish you a
1111p .and I'
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. _ Yours faithfully,--A'roo.
THE FISHERIMAN OF CHAMA.
From time immemorial, the inhabitants
of the
fishing town of Ghana on the windward
coast,
have been regarded by their brethren 'of
the other
towns as not worth\their salt, on
account, it is said, , -,
of their extreme ignorance and
unparalleled simpli-
city.
Tradition tells us, that- in the days of
the:
Fathers, a plain honest citizen of this
romantic ..

```

\section*{THE FISHERMAN OF CHAMA}

From txnle immemorial, the inhabitants of 'the
fishing town of Ghana on the windward coast,
ha've beemregarded by their brethren of the other
towns as not wortfitheir salt, on account; it is said,
of their extreme ignorance and unparalleled simpli-
city. .

Tradition tells us, that in the days of the Fathers, a plain honest citizen of 'this romantic
town, a fisherman by profession, being desirous to
smoke at a rather late hour, 'and not having the necessary to light his pipe, went out in search of a
spark of fire. After a great deal of inconvenience
and trouble, he succeeded in obtaining a spark of
fire with which he lighted his.pipe, andicommr'mced
smoking away furiously. kWhilst "‘ enjoying his
pleasant puffs in that midnight hour, he reflected
on the trouble he had. undergone, for rthe 'httle
spark of fire, and at a last burst out.in a soliloquiz1
\ing tone, "My word what a world of trouble I have
gbne through at this very late hour for this little
spsrlgpf fire. That woman at the other end of the
street,\to whose house'l at last resorted,-
town, a. fisherman by profession, being desirous to
smoke at a rather late hour, 'and not haVilng the
' necessary to light his pipe, went out in search of a , spark of fire. After a great deal of inconvenience and trouble, he succeeded 1 n obtaining a: spark of '
fire with which he lighted his. pipe, andicommrmced.

IkWhilst fenjoying hie ‘ pleasant puffs in that midnight hour, he reflecteds.‘

I - on the trouble he had undergone, for \(r\)-the little,
\' spark of fire, and at a last burst out. in a soliloquiz-
smoking away furiously.
\ing tone, " My word what a world of trouble I have
gb e through at this very late hour for this little
\(1,111.15\), of fire;
nigh gme for a burglar, and where ~would I
. have beans now? Hewever, I have. succeeded 111;:
preving the\t th oft the Old saying 'where there's a Q1gay.' To prevent the same treable'
will there" a a
at a: future simil occasion, I will ndt throwoaway
this little __s_psrlr of re, but will keep it veryxcare-
any, and I- have not the least doubt, it will serve
was very, ' '
nigh gme for a burglar, and where would I
have been now? However, I have succebded in
prOVing'the, th of the old saying 'where there's a
will ' there's agway.' To prevent the same trouble
at is future simile\}\occasiou, I will suit throwoaway
this little spark of re, but will keep it verylcare-
fully, and I-have not he least doubt, it will serve
my purpose for, at the very least, the next two
weeks' to come." So as 'g, be picked up the
spark. of flre, \(\sim\) and carefully pping it,,in a piece
' of cloth, hid it for: better sec fty in the thatch-
roof of his shanty. ~ He was now erfectly satisfied
with himself; and with slight nests, 'proceeded to
the beach; launched his canoe, and p ddled'ofi' to
exercise: his vocation. _. In a few . minu turning
his eyes «towards the town, he perceiv' what
-'appeared to him "at the tinficto be. a big nfire.
" Oh my! I hover would have believed it he exclaimed. "This little spark of mine'has been t
' means 'of producing this big fire. For the next
twelve months to come, there will be no' necessity
:for; late hour marchers to go. out at the dead of
night' in search of a spark of fire. I have rendered
a boon to my brethren, and they ought to express
their in'debtednesd to me, by presenting
\begin{tabular}{|c|c|}
\hline \begin{tabular}{l}
my purpose for, gt the \vsry least, the next two \\
,vweeks' to come." SO as g, be picked up the. \\
spark of are, and carefully . \\
' of cloth, hid it for better sec ty. in the thatch- \\
roof of his shanty?!- He win new erfectly satisfied \\
' with h1mself, and with s- light hesit, proceeded to the beacluwlaunched his canoe, and \(p\) ddled'ofi' to- \\
turning \\
exorcise' his vocation. . In afsw_sl1ninu \\
what \\
'-'appeared to him "at the tinfitto be a big n.fire \\
I hover would have believed it be \\
"This little spark of mine has beent \\
twelve months to come, there will be no' necessity \\
. for; late hour smokers to -.go out at the dead of night'I is search- of a spark of fire. I have rendered \\
a boon to my brethren, "and they ought to express \\
their indebtednssd to me, by presenting me ivith a \\
rustic little undo dud a set 0 ! note!" Without ' \\
giving the subject any further- attsntjon, he calmly ' \\
continua 111.111.1111»; on da Mme... when, having
\end{tabular} & \begin{tabular}{l}
me with a \\
tights little' guarded rest «if nets." Without giving the subject any'fustbcr attention, he calmly continued "chairing." day-break, when, having made a fine haul, ghp. ' | dled towards the shore. \\
On nearing the 'shore, e was Burprised to perceive ' \\
nearly the' while population of the town assembled \\
pp the'beuch'; '3 little redaction" amd'lum that \\
THE GOLD COAST LEADER. \\
they had assembled there to do him honour for his benefaction to the community, and to smokers in particular. With an assumed eir of consequence \\
Ihe landed; but unfortunalely, vain are human \\
expectation.--- Western Echo, Oct. 23, 1886. \\
LETTERS TO THE. EDITOR. \\
[We regret that many of the letters we publish have had to be out down. Correspondents who desire to "see their communications printed as 'scnt must bear in mind the limitations of our space, and that we can seldom/ind room for letters exceeding 800 or .600 words in length.]
\end{tabular} \\
\hline
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\begin{tabular}{|c|c|}
\hline \begin{tabular}{l}
Q11 nearing the shore, nearly the' whole popglstion of the town assembled \\
-- on the was A little reflection .amd him that \\
But this much admonishes us to en- . \\
.1 \\
, inhis last paragraph \(\backslash .1\) \\
That woman at the other end (if the , ~ street \(\backslash t\) 'o whose house I at last resorted,- was very \\
ppmg it,' 1 n a piece " \\
and pitiful. \\
died towards the shore ' \\
ewas surprised to perceive ' \\
T111: GOLD 00.15er111111. \\
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Dear Mr. Editor:-Kindly allow me a space in \\
your valuable Journal to disclose to the public the \\
cause of the early closing of the Otsir convention \\
which the Anamaboe correspondence \\
attempts to \\
hide not thinking that the public could judge otherwise by the portion of the correspondent which runs as follows:--" The absence unavoidable or otherwise, of the majority, however had a tendency to compli \\
cate matters but those present after much consid- \\
eration arrived at a resolution." \\
Those present being the King of Anamaboe and \\
Chief of Ayeldu insuficient to form a quorum were indeed complicatcdin the absence of the majority and arrived at no resolution though the correspon- \\
dent alluded'to one in his last paragraph-- \\
The Ayeldu chief unfortunately for the corres pendent let out the names of the King of Annma- \\
boe and himself as the inventors of the Otsir convention, at Cromantine and made matters more suspicions that King Otsibu's messengers were wait \\
ing for him at Ayeldu to hear the glad tidings which \\
is the resolution of the Borbor Kings against the \\
King of "Abuse on their behalf Re. his claim of the \\
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\end{tabular} \\
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to them
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Kings, yet they shall meet again. '
Both the correspondent and the Ayeldu chief
were causing to omit mentioning the valuableuhints
they had that the D. C. at Salt Pond had been or
dared to retire them at once, the actual cause that
hurried up the closing of the convention. If
the
chrrespondent still insist that some resolution was
arrived at, circumstances will prove such resolutiun
to have been made between the heels and the toes
of th King and chief and it ended in vagaries of sounds rocketing ' over the tops of gigantic shading tread-w 'cb the concepondent artistically described
at Otsir d as much as to say such resolution can-
'ot be "hooded in the volume of their leaves in
addition to the unfolded history of.the place when
'the seats of four Independent and Senior Kings
were vacant. '

The correspondent will benefit- thepublic if he
would contradict Ayeldu chief's statement by men-
tioning the very \name of the King to
whom the
Borbor Kings preikiously gave their consent
and
approval to the meeting and its object as appeared
\begin{tabular}{|c|c|}
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Otsir \\
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suspicions that King Ots'ibu's messengers were wait! \\
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\end{tabular} & \begin{tabular}{l}
in his last paragraphx «2 \\
Now let me turn to the Salt Pond correspondent who seems to believe in the promises made by the \\
late Doctor Coher that the Ayeldu chief shall be promoted to a king as soon .as the thatch roof on :his house, is replaced with irori, otherwise he is. \\
wrong to honour the chief with title,of a \\
king and \\
I amhiuted this was one of evil cause which obstruc- \\
ted tlie attendance of the Borbor Kings as they conceded the idea that the meeting was intended \\
for Berber chiefs and not kings, the authority can- \\
not help. styling the Kings on this Coast as chiefs \\
to avbid complications of the natives by calling real \\
sub-chiefs as Kings. . \\
The Superior Chief 'of Dominassie was very considerate to refuse the invitation under the plea \\
that it is not an ancient custom that the \\
King of \\
Anamaboe convenes meeting and invites \\
him, there- \\
.fore if chief Ordom of Imposeduadzi hours of the \\
movement, 'of the King of Abura to the Otsir convention'he may let him know, that he may go \\
' and sit near him. \\
Thanking you exceedingly for this waste of your \\
valuable space. \\
I beg to remain ~
\end{tabular} \\
\hline
\end{tabular}
```

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place when
the seats of flour Independent and
Senior Kings
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ted the attendance of the Borhor Kings
as they
' conceded the idea that the meeting
was Dintended
for 80er chiefs and not kings, the

```

Yours truly, —--O'rsm Own.
Otsir, 23/12/02.
Dear Sin - In your issue of the 13th December
last I find Mr. Champion Writing in reply to my
letter of the 15th November last. I must say Mr.
EChampiou~ is Dixcove's ogreatcst enemy. lam\}:
'zpure- Dixcovian, born at-Dixcove and । would be
silly to run my Countrydown if all what Isaid was
untrue. 'May I personally and on behalf of the parents be satisfied that the present condition of
'the Day School is satisfactory? I repeat again
that the present condition' of the Dixcove, Singing
Band, . Sunday and Day Schools is very shameful
and pitiful. M r. Champion may be quite a stranger
otherwise 'in céruparing the condition of the past
Singing Band, Sunday and Day Schools, especially
in tlie golden days of the Rev. J. B. Graham, to
that of the \(t\) he' would arrive at a vast -difu-
.feneuce. Whytoap't the Wesleyan
authorities ap-
w
J AN. 3, 190:3.
-
point 'one man whose business would be to go
round the whole circuits at least once in six months,
\begin{tabular}{|c|c|}
\hline authority cannot help styling the Kings on' this Coast as chiefs & and see how their work is going on although they have. faithful men in their places? Well, If I credit Mr. Champion with that point vim- \\
\hline to avoid complications of the natives by & "Messrs \\
\hline \begin{tabular}{l}
calling real. \\
- sub-chiefs as Kings
\end{tabular} & Boyle and Godecke have distributéd prizes and \\
\hline The Superior Chief of Dommassie was & have recently ordered some more beautiful books \\
\hline very & to distribute amongits scholars " on which \\
\hline considerate to refuse the invitation & he stands \\
\hline under the plea & to think tha \\
\hline that it is not an ancient custOm that the & state, \\
\hline King of & what must I put down for the Singing Band and \\
\hline Anamaboe convenes meeting and invites him, there- .. & Sunday School. Thanking you for the valuable \\
\hline & space you have once more allowed me. \\
\hline . 1613 if chief Ordom of Impeselduadzil & I am, in readiness \\
\hline hears of the & \\
\hline movement of the King of. Aims to th & Dec. 1902. J. P. Mensah. \\
\hline Otsir & \\
\hline conv & Dear Mr. Editor 2-May I understand that the 'Gold \\
\hline may & Coast Aborigines'--that admirable organ which boldly \\
\hline and sit near him. & came tothe rescue ashort while ago, has been allowed \\
\hline Thanking yen exceedingly for this waste of your & to collapse through want of attention and support by its \\
\hline & Proprietors-The Aborigines Rights \\
\hline valua & Protection Society \\
\hline , I beg to remain & of this town, and that up to the present day the Editor \\
\hline A. Yours truly,I---O'rsm Own. & and his stafi' have not received their wages for their ser \\
\hline Otsir, 23/12/02. & vices. This, in all conscience. is a crying shame rather \\
\hline . Dear Sir -:In your issue of the 13th & unfair-do use a moderation, with all due \\
\hline Decemher, & deference to the honourable and infiumtial members. \\
\hline last I find- Mr. Champion Writing iii reply & The immortal \\
\hline to my & Archimedes one said, "Give me whereon to \\
\hline -letter )f the 15th November last. I must & place my \\
\hline say Mr. & lever and I will move the worl " and so it is \\
\hline £Champion is Dixcove' solgreates't & that, that \\
\hline enemy; I am a & society is visionary, uncalculating and impractical with- \\
\hline -pure Dixcovian, born at Dixcove and I & al which attempts toaccomplish great en \\
\hline
\end{tabular}
\begin{tabular}{|c|c|}
\hline \multirow[t]{3}{*}{would be, \silly to run my Country down if all what Issid was .} & \\
\hline & that lack sufficiency, energy, love and \\
\hline & ' fixed then death or victory \\
\hline untrue. May I personally and on behalf of the & \\
\hline & \\
\hline & \\
\hline \multirow[t]{2}{*}{'the Day School. is satisfactory? I repeat again} & \\
\hline & \\
\hline \multirow[t]{2}{*}{that the present condition of the Dixcove Singing} & \\
\hline & a name. A glowing and high sounding name \\
\hline Band, . Sunday and Day Schools is very shameful & but "what's in a name ?" Without th \\
\hline \multirow[t]{2}{*}{M r. Champion may be quite a stranger otherwise 111 comparing the condition of the' 11st} & and tr \\
\hline & determination which should at once be the standard and \\
\hline & governing principle of so \\
\hline \multirow[t]{2}{*}{Singing Band, Sunday and Day Schools, especially -'.} & and purer sen \\
\hline & all is nothing but the "Baseless fabric of vision that \\
\hline \multirow[t]{3}{*}{in the golden day's of the Rev. J. _B. Graham, to that of the present he would arrive at a .uvast dif.} & leaves but a wreck behind." The Aborigines \\
\hline & \\
\hline & Protection Society must choose one thing or other \\
\hline & --oither sieze to live or to work heartily \\
\hline foresee. Why cap't the Wesleyan authorities sp., & the country, the race, and. God. This chaff of spurious \\
\hline S & patriotism must be blown away. We have too many 1m" \\
\hline \multirow[t]{2}{*}{، "Druggist Shop"} & portant issues and interests at stake to afford r00m for \\
\hline & selfishness, canting hypocrisy, a ianfaronade in \\
\hline . Jar. 3-. -1903.I & matters affecting the materiifl physical and intelligent \\
\hline point' one man whose business would be to go & Well being of the country. Ignorapoe, more than any- \\
\hline \multirow[t]{2}{*}{round the whole circuits at least once in six months,-} & thing is \\
\hline & Le \\
\hline \multirow[t]{2}{*}{and see how their work 18 going on} & be \\
\hline & a \\
\hline although they
have faithful men in their places? Well, If & things and fathom the great responsibility \\
\hline \multirow[t]{2}{*}{\begin{tabular}{l}
I \\
credit Mr. Champion with that point viz:
\end{tabular}} & th \\
\hline & upon them as a Society. This alone will \\
\hline 4-"Messrs & \\
\hline \multirow[t]{2}{*}{oyle and Godecke have distribute izes and} & ate to a reversal of the present iniquitous \\
\hline & state of \\
\hline
\end{tabular}

at the very foundation of stability and success for any
true society; minus which no society, no matter how af-
fluential or influential the members
thereof. is worthy of
a name. A glowing and high sounding name there may
be, but "what' 3 in a name. 9" Without that love and true'.
determination which should at once be the standard and governing principle of society in its truer and purer sense, all 18 nothing but the "Baseless fabric of a vision that.
leaves but a wreck behind." The Aborigines Rights
Protection Society must choose 'one thing or other
--cither sieze to live or to work heartily and honestly for
the country, the race, and God. This
chaff of spurious
patriotism must be blown away. We have too many importsnt issues and interests at stake to afford rOOm for selfishness, canting hypocrisy, and fanfaronade in matters affecting the material physical and intelligent
Well being of the country. Ignorance, I more than any-
thing is responsible for this social blunder. ' Let the members be given to understand the actual state of things and fathom the great responsibility that devolves upon them as a Society. This alone will doubtless oper-
ate to a reversal of the present iniquitous state of things. , ' ,._." Many thanks for the space allowed.
_can ever enjoy, and will, in time if well patronized. be a
source of incalcu'lable blessing to the Cnmmunitv I sav it would beaboon ands blessing, taking the fact of a
town like Axim teeming .with so many hundreds of livias
the European element not exempted, with only one me-
dical man to attend them, and that one a public oilicer,
with so many restrictions in connection with his service
to the community at large. ~

If therefore, there is a dmggist shop at hand, where a
simple turn at the 'corner will bring you roadilv what lit-
tle stuff you need to patch up a cut.
alleviate a pain and
obtain relief sooner from whatever
suffering you mav be
smarting under. Then also is the fact that the manager
and dispenser of these drugs we all know well, that ho
is thoroughly qualified for the place, and one that one
can place reliable faith in. as we have known him during his official career his well regulated habits. his untiring
zeal and careful attention to his work, his

\section*{rather reticent}
and resrved manners which served on the contrarv to
proclaimhis ability and' trustworthiness.
and endeared
him to the hearts of many whgnhad to command his ser~
vices, therefore, I say, these facts should guarantee the
confidence, court the attention of the public to this welltimed store, and support the assertion.
```

~ Yours t1'11ly,---'A~ Bv- srn 1111-11.
Cape Coast, 2nd. Dec.1902.
` 1x111 IMI'IROVEMENT.
Dear Editor --Pormit me a short space
in your value-
ble columns for the insertion of my
observation on Axim ~
improvements.
Going along the Street the other day, I
was forcibly
impressed with this fact that Axim bids
fair to be the ,.
third important towhj'n this colony.

- Notably among the so may things,
which gave me this '
impresion is, my being ushered into a
rather Inestly-
fitted Store of medicines properly
known, Or celled
Situated' }111\mathrm{ Upper Town, facing Mr
R. T.Arth11r's-big hence. , )
Upon enquiry, I was informed, that this
store hashcen
opened and kept by our friend and
citizen Mr. '1'. Han-
sen Quao, recentlyml certificated
\dlspenser 1n the public
service, but 11. he has new resign th-
JTFovemmcnt and
obtained a Druggist License to sell drugs'
1n Axim.
Taking many things into consideration. it
would most .
reasonably appear to even the most
superficial observer
' that this druggist shop is one of the
best boom that Axim
_can ever enjoy, and will, in _time if well
patronized. be a

```
that a "druggist,
shop" in Aitim should be a been and a blessing.

I do not know whether, or nd't" Mr. Quao intends to
advertise the different kinds of drugs in his store, -
but whatever he may do, this much I know, that the store
contains an that Axim may want for the present, and the
' arrangements and qualities of the medicines are suillci-
ent advertisement to all. "Come and see and be

It
satisfied." ‘ 7'" '
\Thanking you for the space allowed. I
-I Yours tmlv,'

Axisn, Nov. 1902. 10.10 Tristain.

W" WNW MW Wm M s'Ann~mflwn~vn A

Printed at the office of the Cow 06 m
Lit/man,
.Sslt Pond Road, Cape Coast, by J. -R. GRANT.

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.. A m-.
\(=35 \mathrm{vmmWwi} \mathrm{n}^{\prime}\)
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the fact of a
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dical man to attend them, and that one.
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w1th so many restrictions in connection
with his service
to' the community at large.
If therefore, there 1s a dmggist shop at
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his official career his well remflated
habits. his untiring
seal and careful attention to his work,
his rather reticent
and resrved manners which served on
the contrarv to
proclaim his ability and trustworthiness,
and endeared
him to the hearts of many whgohad to
command his ser~
vices, therefore, I say, these facts should
guarantee the
confidence, court the. attention of the
public to this well-
timed store, and support the assertion.
thata "druggist '
shop" in Airim should be a been and a

```



\section*{Appendix B}

\section*{B. 1 Original Images before processing was applied}
lication should be addressed to the Editor. Business Communications and remittances either in Cheques or Post Office Orders should be sent to the Manager, "Gold Coast Leader" Olfice, Saltpond Road, Cape Coast. West Africa.

For copies of the piper please apply \(t_{0}\) the Stores of at Chapel Squaret Intin Street.
\(\frac{\text { ADVERTIS }}{\text { Nessts. }}\)
of Manchester and the Gold Coaghere prepared to let their Well and complete fury hed Rooms (modern style) at their Houses is . Sekondi,

\section*{Mr. Bernard Hicks}

79 Mark Lane, London, has the pleasure to inform Clients on the Coast that he has been able to make arrangements with Messrs.
Mathews Wrightson \& Co.
of 32 Great St. Helens, London E. C., a Firm of acknowlelged standing and reputation, to take over the business carried on by him for some years past.
This Firm having a much larger Capital, and a very efficient statf of assistants, available for undoubtedly reap greater alvantages than he has hitherto been able to ofter, especially as regards the prompt shipments of Gools orderel. As the new business will remain under his management any indents Clients may be pleased to favour the Firm will as heretofore receive

The inhabitants of the Market place and it vicinity are removing in view of the Victoria Park which will som be in courst of erection. The pity is the inadequate sums which are being paid to house owners, not sufficient, all round, for the purchase of ground much mure for building.

Thure was a bal at the Commissariat Houn on the might of the 3ith
appearance, came off nicely.
We regret to report the death of J. P. E. Orleans which took place at Accrat on the 31 st ult.

A correspondent writing from Obuasie reparts a losses, besides laying desolate many buildings.
whother eorrexpondent writes from Sekondi Who after remarking on an unfulfilled promise of endow the hotel there with a Manaseress cony endow the hytel there with a Manageress, com-
plaind bitterly over the over-grown state of then

Figure B1: Evaluation image 1-The Gold Coast Leader
4.

THE GOLD COAST LEADER


JaN. 31, 1903.
pass. through the 'Conncil' to provide for the cost of same. Let them suggest that on certain King or chief should be. distooled-and alas that potentatel, Let them suggest that the moon should,
in the interest of trade, be annexed and the nex in the interest of trade, be annexed and the next
day an expedition would be fitted out to day an expedition would be fitted out to operate. Really what a mopnatruck body of men ree
'Gold Coast Foreign Chambers of Commerce? And what a wonderful institution is the Gold Coast Government!!
Though my knowledge of the Postal Service is not very extensive, it seems to me that the system not very extensive, it seems to me that the system
of 'crying out' mails to the public is very stupid. On mail days after the mails have been received
into the office and duly stamped, a clerk mounts

Figure B2: Evaluation image 2 - The Gold Coast Leader


Figure B3: Evaluation image 3 - The Gold Coast Leader


Figure B4: Evaluation image 4-The Gold Coast Leader


Figure B5: Evaluation image 5 - The Gold Coast Leader

\section*{The Coft Coast Leader.}


Figure B6: Evaluation image 6 - The Gold Coast Leader


Figure B7: Evaluation image 7-The African Standard
Saturdar, June 25, 1904.

THE AFRICAN STANDARD.


Figure B8: Evaluation image 8 - The African Standard
just äs Macdonald was collecting his troops and stores lora start. No incident of Imperial expansion has been so extensively and
warmly debated as this. There are Und cliques. Nearly every pro-consul Uganda ever reigned here has his paitisans and controversies, about the warious is stajest and "settlement" of the country' are numerous as the direct consequence of the greai, difficulty and prolongation of the operitions.: Macdonald has bern more bitterly and persistently attacked-"criticiscde" is too weak a wordthan any." Being an Aberdonian, he has taken his unfair punishment like a man. But he does not lack advocates, and of these Major Austin, who had worked with him long before Uganda days, is one of the most The Soud these same time niost convincing. The Soudanese who mutinied were the ong evil They were the derelists of the Pasha and Sir Henry Stan ane forces of not very rood Soudanese, though. certain proportion were excellent. They had served a great purpose when first introduced into Uganda and scattered in garrisons over wide country. When Macdonald arrived from England in 1897 they were ripe for mutiny. The immediate cause was undoubtedly overwork. The King Mwanga had recently fled from the capital and raised a revolt. There had beon a great deal of fighting and
ways unique The readerican follow with ease the whole of a somphat compligated se ries of marches and fights. As is well known the rebels ultimately evacuated Lubwa's and "pursued, Macdonald had to undertade the Nile, whither they pursued, Macdonald had to undertake at the same time the sufpresision of the revolting
Mahommed natives under mand hadia hard job of it in the seven months that elapsed beforre he was enhle to piece together his expedition again andotart for the north The ability displayed by the leaders of the Soudanese was ndisputable, For instance if the evacuateer rabows win as mat ease h miles had been no investing force within as Major Austin
 meditafingatifemp to "票en out by wate utilisfing the and for this-purpose to cross to a promontory about two miles across the lake from their present fort, at. Lubwa's. The Sourounds of said, still ppossessed from 20 to i 30 strongly loopholed their fort, which they re arded as impregnable. Offer of was right down on the ground on a level with the top on the ditch, the men lying in regular excavated pits, in which it was impossible that they shof addy hit He laughivity add-ed:--'You emay bo able to béat us in the open, but don't make an attempt to storm the


Figure B9: Evaluation image 9 - The African Standard


Figure B10: Evaluation image 10 - The African Standard

THE NFRFANASTANDARD.


Figure B11: Evaluation image 11 - The African Standard


Figure B12: Evaluation image 12 - The African Standard

Pertinent to our last week's culling from Truth touching a certain correspondence from a Mr. Ampiah of Frankfort Chambers se de, Cape Coas: we again cull the following from the same paper of the tith. December last, our comment, on which we: once more reserve:-
"It seems that the letter from a Mr. Ampiah to a Iondon Tradesman recently published in Truth is a sample of a very common class of communications from that part of the world. The business notions of the ninger trader are evidently somewhat chaotic. One of them writes to ac correspondent whom he addresses as a "book seller and news Agent."
"Your name was highly recommended to me by a certain friend of mine that you are the best wool manufacturing, so that I want your Samples, Catalogue dede.
"In anothercase two ingenusus youths wrote that they had heard some black men were wanted to learn the book trade, and proposed to eome "n receipt of Tickets for second class saloon passage to England"

With sincere rogret we announce the quite untimely death of Miss Joana Clarisa Thompson which occurred on the last day of the past year., She was the affectionate daughter of Mr. J. F. Thempsin of the Treasury and niece of Rev. Kigir and Barriviter Kofi Asam. For sometime she had beea aling from some malady which certainly never sugnested the anticipation of this sad occurrence. "For a girl ,if such amiable and respectful disposition th be cut off in the thower of her age is aftheting inderd and beyond what the human pen could descrihe. To the bereaved family we teuder uar syupathysincere and unalloyed.

Kwodwo Mensah, a clever young Bricklayer, brother of Mr. J.J. Kofiof Alourinim diedsadienly an the lst inst. . It appeary he was oighatly indispused

Figure B13: Evaluation Image 13 - The Gold Coast Leader

How many were with us in the field during the past year's bivonacking we cannot estimate, but the fact certainly brings to our remembrance, the recollections of many dear ones whose company and faces we shall never have the pleasure of shating and seeing an earth; for since the divine edict went out-"Dust thou' art," and unto dust ahalt thou return," it has had its vigorous operation, making no distinction between great and small, rich and poor, the man of many surroundings and the orphanFor it is an order that must pass on all men.

Whatever the year 1903 hass in store for us is a mystery known only to the Great and merciful Creator, the Steersman of our. destinies. But we must surely, be vigilant as become men waiting for unexpected event, strange appsritions and unpleasant occurrences, especially in this Gold Coast of ours, the land of strange and unexpected, visions.

At the onset we must wake up from our long and miserable lethargy, if we must achieve some good reforms this year. Our fathers in their time played their part well and we should for shame play our part well and as mach as lies in our ability, so that we might leave foot-prints worthy of the treading of our immediate successors, and at the end of the year may be able to ejaculate congcientionsly "I have done what I could during the past year."

And now, dear reader, I wish you a happy and prosperous New Year.

Yours faithfully,-AT00.
which the Ansmaboe correspondence attempts to hide not thinking that the public could judge otherwise by the portion of the correspondent which runs as follows:-"The ebsence unavoidable or otherwise, of the majority, however had a tendency to complicate matters but those present after much consideration arrived at a resolution."

Those present being the King of Anamaboe and Chief of Ayeldu insufficient to form a quorum were indeed complicated in the absence of the majority and arrived at no resolution though the correspondent alluded to one in his last paragraph -

The Ayeldu chief unfortunately for the correspondent let out the names of the King of Anamaboe and himself as the inventors of the Otsir convention, at Cromantine and made matters more suspicious that King Otsibu's messengers 'were waiting for him at Ayeldu to hear the glad tidings which is the resolution of the Borbor Kings against the King of Abura on their behalf Re. his clain of the Assin land; hence it was a disappointment to them in consequence of the non-attendance of the Borbor Kings, yet they shall meet góain.

Both the correspondent and the Ayeldu chief were ounaing to omit mentioning the valuable hints they had that the D. C. at Salt Pond had been ordered to retire them at once, the actual cause that hurried up the closing of the convention. If the correapondent still insist that some resolution was arrived at, circumstances will prove such resolution to have been made between the heels and the toes of the King and chief and it ended in vagaries of sounds rocketing: over the tops of gigantic shading

Figure B14: Evaluation Image 14 - The Gold Coast Leader

\section*{ADVERTISEMENTS.}

\section*{Mr. Bernard Hicks}

79 Mark Lane, London, has the pleasure to inform Clients on the Coast that he has been able to make arrangements with Messrs.

Mathews Wrightson \& Co.
of 32 Great St. Hélens, London E. C.," a Firm of acknowledged standing and reputation, to take over the business carried on by him for some years past.

This Firm having a much larger Capital, and a very efficient staff of assistants, available for the working of their business, Customers will undoubtedly reap greater advantages than he has hitherto been able to offer, especially 'as regards the prompt shipments of Goods ordered.

As the new business will remain under his management any indents Clients may be pleased to favour the Firm will as heretofore receive his best and personal attention.

Thanking you for your esteemed commands in the past and trusting you may do a large and mutually, satisfactory trade with the Firm in the future and soliciting the continuance of same.
J. D. AAKU,-Agent.

To be let one Large Store in De Graft's Hall formerly known as Holdbrook's Store. For particulars apply to Mi. J. J. Kwofi, Jerusalem Street, Cape Coast.
time. It is a pity the Court of Justice should be subjected to such indignity.

Number of deaths for the week is registered at 9.
MOVEMENTS OF STEAMERS.
\begin{tabular}{|c|c|c|c|}
\hline \multicolumn{4}{|c|}{OUTWARDS.} \\
\hline \multicolumn{4}{|r|}{Due at Cape Coast.} \\
\hline Warri & Opobo service & & Jan. 8 \\
\hline Accre Bra & Brass service & & 11 \\
\hline Burutu & Lagos Express & service & 12 \\
\hline Egwanga & Opobo servi & & " 22 \\
\hline Coomassie & Brass servi & & 25 \\
\hline Volta & S. W. service & & 27 \\
\hline Melita Boh & hlen G. C. Ex & press serv & , 16 \\
\hline Eleo. Woer & rmann Accel. & Main Lin & , 27 \\
\hline & HOMEWA & RDS. & \\
\hline
\end{tabular}
\begin{tabular}{|c|c|c|}
\hline A & ine & Jan. 11 \\
\hline Bonny & Brass service & , 15 \\
\hline Jebha & Lagos Express service & 16 \\
\hline Axim \({ }^{\text {a }}\) & Opobo service & 18 \\
\hline Tarquah & South Coast Express ser & 23 \\
\hline Bathurst & Brass service & 29 \\
\hline
\end{tabular}

\section*{ELMINA.}
(From our Correspondent)
Sister MaCsrthy of the Roman Catholic Mission died here on the 28th December last.

Mr. Justice Stanley Morgan arrived in town from Cape Coast on the 29th of December last to preside over the Civil. Asaize which commenced on the following day (30th Deo-) There were nearly 25 Cases on the hearing list. From what we find, His Honour was not intended for a permanent stay here as he is to sit at Cape Const and Saltpond an well.

Figure B15: Evaluation Image 15 - The Gold Coast Leader

\title{
The Gold Coast Leader.
}


Figure B16: Evaluation Image 16 - The Gold Coast Leader
for s few dayge.f: We tepder our heartfelk aym. pathy to the beresved family.
Number of deatha for the week is zegisered at 9 :
We deeply regret to have to reeord the death of Mr. Francis Chapman Grant which took place of Mr, Francis Clapmse (the Salt Pond Fonse this morning. The Masens and the Foresters attended his faneral which tooks place in the evening.
Mr. J. D, Abraham also loft a brother the day before (Friday.) Adan he was called, a brickiayer.
The berenved familios have our syanpathies
MOVEMENTS OF STEAMERS. OUTWARD.
\begin{tabular}{|c|c|c|}
\hline \multicolumn{3}{|r|}{Due at Crpe Const.} \\
\hline &  & Pe Const. \\
\hline Canseroon & S. W. Conat service & Dec. 30 \\
\hline Sekondi & S. C. Express mervice. & Jat. 5 \\
\hline Warri & Opebe service & 8 \\
\hline Acera & Brasg gervice. & 11 \\
\hline Burutu & Lagos Expresa sarvice & \\
\hline Eguanga & Opoto service & \\
\hline Coumassic & - Brase servico & , 25 \\
\hline Volta & S. W. service & 27 \\
\hline \multicolumn{3}{|c|}{HOMEWARD.} \\
\hline Ioanda & Brass service & 35n. . 1 \\
\hline  & Opobe Serrice & 4 \\
\hline Olendia S & South Const accel: service & \\
\hline Fantee 5 & Sonth Cosat Express Service & . \({ }^{\text {\% }}\) \\
\hline Tarymah & Soath Coant Exprese-servic & 3 \\
\hline & SERUNDI. & \\
\hline
\end{tabular}
(Fe rem out Corazsyondert.)
We regres to report the death of Dr. Sandersou,
who among other passengers from England by the *ho among other passengers from England by the
S. S. Farquah arrived on the 9 h wltimo. The
 hoor and a half," and died znexp
thereaved peaple have our sympathiss.
I whs startled from bed it 8 p . m. the other day
hy the rosr of a cannon and at earily dawn the
"Ville Boat for which thint signol was made, turned out to be a craft. The offeieik who harried to welcoming. His Excellevey, the Governor on board welcoming His Exceellevey, the Governor on boand
the Fhitipperile were not only sadly diisappointed, but rightly served, the wignaiman having beenk gufticiently pressed to do that daty, and as a matter of fact
His Excellency did not land hers as was expected.
The Case Rex. Grant terminsted in the
The Case Rex e. Grant terminated in the
acquittal of the accused on Tresday the \(16 t h\)
acquittal of the accused on Trasday the 16 th
December last. We hear a fresh warrant has been isewed against Grant for 2 asecond act of felony and the police are fizhing up every quarter of Solondid for
the youngrann. As the case standa there is suery the youngman. As the case stands there is avery
reason to believe that it it. the action of a eecre Ageicy. Bit it is a pity that peopla can be found Ag lees. so billy and ignorant as to beliove all swoh trash exd foliow up tha instigation, purely sentimental, of simpletons sind avengers,
to give "Roland for an Ofirer."
On Sunday the 28 th nitime
 number of people were arrested for commonting
nuisaines. absout some remote portions in the
precincts of the town. The poplice, as they call precincts of the town. The ppolice, as they eall
themselves are but scavengers themselvas, are bot scavengers disguised like the
tinw. in borrowed plume: The increase tinw. in borrowed plume:. The increase in
popalation demands is permanent way on popazation demands is permanent way an
hdequately, good nuxaber of latrines after the
feskion of those at Acora and Cape Cosis. This.
 Rhould be sapplied before a 日top to all this nuissnoe
in the outakirts of the town could be reasosably effected.
Of late there have been frequent interruptions in
the Telegraph lines, hat during tbe week Fo have hisd enought to siekeso our souiso. From whom mast we ayk the caune of this frequest- uxpleagant
occurrences 7 If not from the Forxmang of Telegrapha, we may rightiy suiggest to the Govern-
ment thre necessity of s. franch cable being laid commectiog Axim snd shis bianch cable being laid connecting Axitr asd hie p
A party of railway oficiala headed by the Chiet Hesident Engiveor jeft ly train this morving for the inserior, Thé expodition, as uuderstood is to arrange matters as regards traficic on the tine no opened to Obuasia. A very noble work
- CHAMA.
(Fhom our Correspondrat.
The local Schoolkat vicated on'the 15th altimo the Cbristman holidays.
A burgiary was committed at the store of a
Tailor Lawrenve on the 23 rd ultimo. The thieves hnven not at you bem disoovered. We Would
suggest that the wathoritioe provide this place with mors eonstibies to guard the town at
nighta. What ean three policemen do at sucb a densely populated town?
We regret to fearn of the indisponition of the
Superintendent Minister of chis Circuit. Wo wiath Superintendent Minis.
Lim a speedy recovery.
The Sanding \(0^{\circ}\), The Sanday. School. Work here has not heen latk
ing in interest. Mr. T. M. Banson its indefatigatle Superintendent is working sesiduously and conse quently the work done by the Scholars is of a pleasing and commendable nature.
The Chamis Westievian Mision Houne is a mode of what a Tropical Mission premises should be. It is reported that a braveh of the Sokondi
Ratimay will goon he laid this wny. We bope this will prove to be a trae report.

\section*{ELMINA. \\ (Fbon our Corspapondist)}

Messry F. \& A. Smanzy are putiling on some tonporayy repairat
back of the Caste.
As yat no rolith has come for Dr. Browne. He doee not seem likely to sit orror nay more cases in the D, Cs Court.
We understasd Dr. Derwent Waldron ia to
It is and that meariy fourteen recmncies exist st
present for doctors on this Coast, the holiecs of the posts hsving resigned because they do not wish to bs humbugged تith magituterial work. All the
Cases in the D. C"t. Court haxe been adjourned Cases in the D. Cs.
sine die. ane die
Mr. Matteer died on the 18 th of last month The S. S. Cameroon is due here on the \(99 t h\) aceording to the lateat arrangewenta cargo bost
in tbe Southorn Windward Service are to make the trip between Liverponl sud this port in thirty nixe days--_an improvement this is.

\section*{ACCRA:}
(Frow ofe Coninapondext,
The Juvenile Branch of the Free Gardiners Lodge (Friends of the Gardiners) beld its second Anbivaraary on Thurgday the 25th December lant
by a Thanksgiviag Service at Holy Trinity Chur at 2 p Chaptsin Oflciating After the serve A., Colonial beis paraded throug. Ahe town witts Bsid panierl by Bro'z John Arthur, A O. Petery, I B.J. Ratrman John Amatiafio (adit many ladies amongst whom were:-Messer Maria Brace, Amelin Brtce: Evans, Victoris Hesse, Lily Jane Biney, and Kloral Quartey. They retired to Asorfur Hoase (Bro. Jolin Arthar's) whera sumptuons "Fork and Kinife" Tea was served.
The Ascra Races ander the Patronage of His Excellency Sir Matthew. Nathan K.C.M.G., R.E. came off splandidly on Boxing day and the day foliowing. This deew mang spectaters from Janies \& Unsher Townand Christianaborg, Mr.T. E. Fell, the rider of Major Kitson's Bekwai and the winner of the Governor'a Cup with \(\Sigma 20\). mast be specially congratulated.
Mr. C. 3. Badnerman's Katatocer won the Mnxwoll Memorial Cap with £10. The Governer's Lesoore Product and Gyeater Product wón, many prizen. The Trilly, the famous runser and wioner of many prizes, owned now by Mr. Bonso-Bruce, lost all entranees this year.
The tower in coarse of erection to the Holy Trinity Church is nearing completion.
The Harnatlan winds have set in and have been blowing fercely.
Mr. H. E. Barker, Agent of F. \& A Swanzy arrived here from Cape Const by the Buratu on Cliristmas Day.

EDITORLAL NOTES
To the fashionable and the conventional the festive reacon has entailed great expense. Here snd there, there is no end of exchange of gifts in every shap-in every form.
Perhaps there has been no Christmas in which there have been so much animation and joy and pleasure as the one which has just doctor and the fool-all have joined in the universal jubilation

And so we are upon the threaboid of the
down into the bourto from wheace it will never retarn, and with it, its joys and sorrows its failures and successes, its disappointments, its bereavements and losbes-... Whatever we have
done and suffered. Still there should be no son to dispair. Now is the time to profit by past exporiences, and to bo better nerved to face life's struggles. Withal let us hate hopo -hope which is much needed in the stress and ghoom of whatever betide.
But for all that we will uot omit mentioning the fact that the old yoar had been a very sad one to the community; young and old, rich
and poor, have all been called to the world unknown.
Th all who bave suffered during the gear, the Lecader tenders its hoartfelt sympathy, and \begin{tabular}{l} 
hraye and consolation. \\
hope ans to grant thent \\
\hline
\end{tabular}

But while tendering to all our frienda far and nesr the compliments of the season, we
take the opportunity to thank our subscribers take the opportunity to thank our subscribers and other sympathetic friends whe have testi-
fied their appreciation of our services by paying up their dues promply and regularly. It ing our sincere hope that there will be a stimulus to greater energy and determination for presperity and success.
Thanks to goodness! Our detractors befors this paper was launcled, preflieted but a short
earcer for it, many were lovid in the win as. eareer for it, many were houd in the van as-
sertion that it would not reach a successful career-nay that it would not survive a few days of its existence. But, be it to their discredit, the "Gold Coast Leader" bas had the happy fortune to see these gloomy prognostics belied. The "Lender" yet hives. It has not given up the struggle for texistence. It means duty and given duty, its destiny rests with the Grest Direetor of events. Good bye?
About four years ago a dignitary of the at formand there by the members of the Society Races said: "There were thrce things they were Races said: "There were three things they were
bound to endeavour to aim at. First we should aim at justice in every part of our Empire without reference to colour or creet. Next we
should feel that we were charged with the duty of bringing all the best inflacnous of civilization for the benefft of all those populations which belonged to our Empire. But our greatest responsibility of all was to endeavour to carry into those populations those blessings of the Chrintian fife which are the greatest blessings
in our own bomes and lice," in our own homes and lives."

When we look at how we are governed out bere, when one sees what is froing on around us 'sentatives of this Empire the Eishop speaks of, what a vast difference there seems to exist between the getions of these nien ate the poble sentiments expressed herce? Is it the fault of the men or the poliey thacy have to parsue out
here that this difference we spesk of exista? Can there be no remedy if we must be made willing, and cheerful subjects of the British Throne, that is, it'we are to be accounted as part of the Empire.
We do not consider the treatment which has been-given to the Bentsin people, arrested the
other day, fair or right. This hasdful of me have been fined c70, or imprisonment, what for, we camnot tell. How exsily the Government chest can be filled. But what is their charge. And we are told that the officer sent to arrest them in the why fired into them. This is a 8erious affar and we hope His Worship Mr
Peregrine will look into it. Peran

The report goes that the men refusing to pay his amount (fourteen of them) were starved, probsbly to make them pay. Food is not supplied them - nor would their people be allowed to take food to them. Thie observant ones among us think that the treatment now uninir the natives is very hard and mos becanse compareu to what in used for travelling and tuty allowances or there is arnen need for prison labour.

Figure B17: Evaluation Image 17 - The Gold Coast Leader

Really what is going on now in these days is ngisb
It is true that "economy is no disgrace," but that economy which make Government Offices stand in sore need of stationery is most disgrace-
fal especially if welook atit at the way, fines (and henvy finee too) are inflicted for every mortal thing, no matter how trifling, it may be. Io Governor Nathan also bikely to disappoint us
Ras a Governor? What is there on The Gold nas a Governor? What is there on The Gold
Coust which works such changes in our Govertaors.
Last week we reported in our News column, that Dr. Murray had Mr. Ayeusu arrested for sloooting at some pigeons in the front of bisown
irouse, and the doctor himself has a regular house, and the doctor himself has a regular
haily ghooting st them. It is alwisys an unpleysant task for ua to call into question the netion of an officisl, and it is far wore so for us on this oceasion to do so when it is the doing of one whont we have always respected and considered to be one of those offciais who coromand our respect. Why did the dioctor ha the tyer the birds at the Consur's Raill, or hoid a lieense for them. It neems that any official con wak for the arrest of any one he puts into
lin head to have arrested hins head to have arrested.

GOVERNOR NATHAN AND SEGREGATION.

Anent the West African governors it is much to be regretted that Sir Matehew Nathan who had made quite a reppitition at Sierra Loome for practical sympathy wist the native, should have
deviated from this policy and taken up the idea of segregation which is opposed in principle to the basic idea of governusent. Government the basic ides of goverumenk Government
covers all and places all upon an equal plane, while segregation separateps a particular class for upecial treatment and is in direct confict with the equality of treatment idea: The fact
is no
government which true to its tradition is no government which true to its tradition
wouk undertake to get up a plan of segregation nad the segregation selieme adopted on the Gold nad the segregration seticme adopted on the Gold arrangeramt in the United States A poicy of the kind can hardly be esteemod helpfal in the way of consolidation as it is bound to produce
the uninvourable impression with the native the uniavourable impression with the native
that the governuent means to set up \(s\) line of discrimination between its constituents. Such an dica is not celeylated to inspire confidence and loyalty with the peopte, and the governors who are toying with segregation are not perhape eware that they are initiating a policy full of
politieal significance. It is not by a policy of tegregation that Imperial interests are promoted in West Arrica, and British rule consolidated, but by a policy of understanding the native and getting into touch with him and inspiring
his contidence.-Lacos Record, Dec. 27 , his contidence--Lagos Record, Dic. 27,

THE ARRIVAL OF GOVERNOR KING-HARMAN
The hearty welcome sccorded Sir King- HARmas by the peoplo of Sieirra Leone on his return way or other Goversor King Harman has ac guired a strong hold upon the affections of the people. It is the prerogative of a governior, and indeed ought to be bis first object and daty to sequire such a hold, for it shows mors than anything else that he tas been sdministering the
governiment wisely and well in the iaterest of government misely and well in ne naterest oi
the governed. The people do not take to a the governet. The people do not take to a
governor for nothing but are attracted by the *ympathy which he evinces in their wolfare expressed in the practical form of a policy direct. of to promote the interests of the people. It is not given to every governor to insugurste such
a policy, which is dictated by a deep regard for a policy, which is dictated by a deep regard for
the gaverned. Tlis regadd is tbe test whitich the governed. This regard is tbe test which
the native applies in the adjuagment of the new yovernor whose evory act snd action as relating to the native of whatever degree is watclied with the closest acrutiny, and pot either to the
governor's credit or to his discredit. In this way a genexal opinion is formed and the gov emor who showe by his policy sud treatment of the astive that he in influenced by an impartial spirit ald an honest and genuine desire to do justice to al ajake, will not fsil to acquire a greeting accorded. Sir Kina-Haraman stamps
him as a governor of the right.stamp, and one
whom the peopie of Sierrs Leone believe in atd can rely apon, and so his work of wdministration will be rendered easy as well as effective because it will be a co-operative work, the people working with the governor and discord can enter into puch a plan of administration for the simple and sufficient resson that the desires and needs of the people constitutes its ingpiration and object.-Lagos Record, Dec. 27

\section*{REUTER'S TELEGRAM.}

Dec. 26--Venezuela has aqreed to submit the Doc. \(26-\)-Vonezuela hast akreed 10 nubmit the
dispute to the Irgue Arbitration oa conditron that the blickada is xaisod and fleet restorea. Portion of the Somatiland torce has proceeded to
Obvin, Itsly agreeing to foilitate duseabarisation.

\section*{TO CORRESPONDENTS}

Intelligent corrospondence on mattory of interiest
touching the wolfate of the Coumtry is iuvited. We do not howerver bold oursolves sesponaible for the vivws of opinione that may be exprestact by our corres. andenta.
A nom-de-plsme or initiats thould be given if it dosired that the reas neme thall nots sppeac in thip papen,
 Thuraday.
Rejected conmancations eannot be returned. Communications to which replises may be oxpeoted
ungt be tecompanied with Stamps. touthe be accompanied with stamp

\section*{Whe Gold Coast Leader.}

CAPE COAST, JAN 3, 1903.
A NEW YEAR'S GREETINGS.
For the first. Eime the Leader has to greet its readers, of all shades and characters, withA HAPPY NEW YEAR. The year of grace left us -with all we were and did, travelling to the bourne from whenee years return not. A solemn thought this. With us ss individuals or cititens of this Country, with those of us who are called upon to play an mportant part in the making of this Country, sociarly or moraly, the year is gone wih al ous deed
(or misdeeds) shortcomingr, or derefiction of
duty We may as well consider such thoughte as heree: As a native of the soil, or otherwiae, have 1 done nff duty, according to my position influence or koowledge? Hsyer 1 served my-
self, my" people and Conntry as I shoula. Whateyer the snewer to these may be, 1902 has tuken it along with it, to Him whose we are, and to whom all in the flesh are accountable. to day we stand on the threshold of another year-1903:- None of us has travelied this way before. Is it bikely that in
spared, we shall go over the same road sgain in all that we may have to do, or that maxy be expected of us? Or are we going to retrieve lost opportunities? "The timee sre hard." That is the cry now. What are we going to do then. Trading or 'concessioning' ebould should interest ourselves in, wa are to live and not merely exist". If we must rise as a people we must not be ashamed of labour-not refined labour as it were, but hard, hanēst labour, doing with all our might whatsoover
our hands may fad to do. To think that to our hands may had muat all be clarks, beegilse Wo have seen s School room is a mistake which is fast ruining our Country. It is high time we gave manual habour some attention snd the other industries in the Country claimed our serious attantion. Even thote who are engaged in trade are ever crying, Trade is
duil, and yet they will not stir, to see the duil, and yet they will not stiv, to see tha
phase of things attered. How, it may be aeked, and the findirg out of the "how" wial solve the problem. The only charge often laid at bur doof by those who look at us with the eyes of twenty centaries' civilization is leqiness. We righty reent this. As a. peoplo we are not,
but when we muat depend on them entirely for everything and allow ourselves to bo wholly
anglicized, lazy poople we shall always be ko
them. Think this out for yourself. Heaven hetps those whe help themetives' is a trite say ing, but the truth it enuaciatert is as old as Methiselah.
Then the politician: we mast admit, that the political atmosphere of this Counity, is inimical to the growth of any one who may
interest thimsell in the politics of the Country. Everything is againgt him, and the becoraes at once s saarked man. Men whose sires have fought for thair liberty, and they thombelves delight in suaking for their rights aro able to consider a person who does the samse thing for
hie Comatry, a diatarber in Isrect, or izapedi-
 strangle st the way, one whom they many probably, that patriotippors exists as sürely in the breast of the black as it does in the white or in the Asiatic. But He who defonds the eause of their fathors, lives, and will defend ours, howevar gloomy and dark sthing zay scem, for be is ino respecter of porgozithercend we malyy add, no regpecter of races. for he made then all. . Might may best xight, but Truth will prevail. Al and everything depend
on ovirselves. Who does not know that in thi on ourselves. : Who does not know that in thi
Country things are done which egnot dreamt of in any of the Colonies under the syitemi of the Crown Colony Policy? Why this high handedness which is displayed in everything done by the Poware that bet with ing so long amongst is, ind is now riding red shot in our midgt? Because we are agaius each other, ourselves: bocanse the foxes the lithie foxes, (the native informants) spoil our vine. We cannot tell what amount of mischief thege have done and are doing in the Country
Bat we judge no ose: They have judged and aro judging themselves by their own actions But becunse-our movements are ciosely wateled and reported ons becarse our doinga ara always grossify misrepressated, because cart lozds of faiselowad. are doled out to our dis advantage, only to serve as stepping stones for
them to rise in the faveur of Milord soand so, or Sir Kuight, of his armonnbearer, when woare no actiasted by any ilf feeling agquinet any one or evil intentions in what we do, but to see that wi are not nanecabsarily trodden upon, sball, we bo disloyal to the Extherland? We are alyay talking of opprossion, and finding fauit with this and that, whit else cas it be when we aro
so dead to our own interest, and suctr traitors to ourselves and Country. Wo wish for ourselve a better ("New") year.

Why cannot this year witness a doapar, and keaner interest, in our politics, education, and induatry" It ti true there seems to be a policy existing smongst us which has for its watch ward, "Down with the biacke" in the govern mental or mercantile world, it is true that our whe en of low that we see no rik hat our doud and if anything, thange are gettiog worse, and worse, whilst they are represented differenk torw maing ex thit iso \(x\) that thet thing thall which we tre toy compining but we cuph not to dospir of anything but rather be more wited end true to ourselves and Country, and senk not to win the favour of eny one; we do not ank to to you to serve your day and generation better this year, and there sre maits ways through which you cais do this. A HAPPY, AND PROSPEROUS NEW YEAR to all!

\section*{SCRUTINEER.}

Once mare the soleman tinkling of the zaidoigh vell reminds ua that wo have been inamarged into another yoir. The year-1902 with all its adviz andet, gioving, hlossings, woes, templetionu, happy for eyor and rolled into nternitys. "Whatever we did whetior morill or improinal in punt recalling mondiag or redeening. We Wro not to look moura tully into the pant at it cometes nat back uguin.

Figure B18: Evaluation Image 18 - The Gold Coast Leader

Bat though we are not to look into what hat
oen perpetrated and goxe, it is not required of ua
 of inuctivity,. Bat thie much admoniohes bu to
deavour to lesid guch lives that each succeediag day may seem better and more profitable to us individually and to our generation.
We buve surely left undone those things which Fe ought to have done both in our religiouk, poli-
tienl and social duxties. And on the other hasd wo have not left undone such enormities as induiging in petty projudices, willingly nad unaillingly betraping day by day our nation, in exhibiting mark-
ed rad perpatual indifference towads ove political interesta, and in ongagingein profitleass spitefolsean and woful eapidiky.
How many mere with ns in the field daring the pant yestrn bivouscking. We cannot entimase, bat the collections of many dear oues whate pompany and faces we ohall never have the plensure of olhating aut-"Desting than art, and nuto duit elialt thou return," it bae had its vigorous operation, making po distinotion botreeng grext mad small, rioh and poor,


Whatever the year 1903 has in store for aniat a mystery known only to tha Great and xaercifol Creator, the steeremman of our. destinies. But \%e unaxpected event, strangs apparitionas mad unpleas-
 At the onset we raust wake up from our long and
miserable lethargy, if me must achisve nowe good ed tieir part well and we ghoold for 'thame piay ed tieir part well and wa ghoold for manme phay that Te might lenve foot-printh worthy of the tread. ing of our immediato *incenescors, and at, the ened of the year- many be able to ejaculate econacientionaly
"I hove done what I conld durizg the patt year." And now, dear reacer, I wish you: happy and prosperona New Year. Toury faithfally,-Amoo.

THE FISHERMAN OF CHAMA. From time kmmemorial, the inhabitants of the fishog town of Ghama on the windward const, hive been regurded by their brothren of the other of their axtrexne ignorizace and nuparalleled simpli:city. Tradition tells us, that in the dayy of the
 cown; a fisberman by professioq, being desirona to
swoke at a rather lite hoor, and mot having the neciomary to light his pipa, ment ont in search of a




 ing tone, "My word what a wopld of troubje I bave gope through st this very late hour for this hitle
upprk of fire. That winan st the other end of the atratt to whote honat 1 at last ratonsod; wat rery nigh teiking me for a burglar, and where would
have beipp pow? However, I have nucceeded in

 that littie opyrk of fire, but . Will keop it very care.
fully, Ind I have not the leait doubt, it will serve soy purpone for, 施 the verigy leatht, the next two
 apirk of firs, ward carefolly wrupping it, in a pioco
of cloth, hid it for bouter socitity in the thatch. ot cloth, hid it tor botser, socuteity in the thatch-
roof of hie hanty. He was now perfectly mantisfed With hincolit; and with H Hgt heart, proceedod to The beactry thanched his conope, xund piddeled off to

 oxclaimed. "This littere ppurt of mine has been the meant of prodqcing thax big fire. For the next
twelve montha to corac, there will bo no necouity for hete bour bropkere to, go. out at the demd of night ix sarrch of a appeck of fire. I hava readerod a boon to my bietiren, sad they - ought to axpress
their indebtediee to mo by presanting ma pith
 givaty the exbjemt any tanber sttention, he ofimly
 On otaring the thiora, he =ind supprined to perceive

they had assembled there to do thin honour for his
benefuotion to the community, And to smokers in partievisr. With an absumed bir of conzequsnce expectation.-WFostirn Echo, Oct, 23, 1886 .

LETTERS TO THE EDITOR
 comonumications printed as ent muet bear in mind the


To the Editor, Gold Coast Leader.
Dear Mr. Editor:-Kindly allow me a space in yout valua ile Journal to disclose to the public the catte of the esarly eloing of the Otsir conveation hide not thinking that the prbfic could judge othorwise by tho portion of the correapondent which runs af follown: "The atweane unnvoideble or otherrise, of the majority, howezer had a tandency to corapif.
cate mattera but those pretent after much considcata matters but those present
eration arrived at a reselation.?
Chief of Ayeldu binsuatecient to form a quorum were Cbief of Ajeldu insuficient to form a quorum were adeed coruphicated in the absence of the majority dent alluded to one in his last paiagraph -
The Ayeldú chief unfortunately for the correspondent fet out the nameas of the King of Anaumsboe and himeelf as the inventors of the Otbir
convention, at Cromantine and made matters more saspicious that King Otristu's mestengers: were waiting for tim at Ayeldu to hear the glad tidings which is tije resolution of the Borbor Kingse gaginst the
King of Abura on their bebisf \(R s\). his clains of the King of Abura on their behalf Ro. Sis claiux of the
Azsin land; hemoe it was a disappointront to them in conseguence of the pon-attendance of the Borbor Kingig yet they what y meet afain.
Both the oorrospondent
Both the oorrospondent and the Ayeldu chief were eanaing to omit mentioning the valuable, hints
they had that the D. C, at Salt Yond had beegn or dered to retire theme nt once, the setual cause that huiried up the clowing of the convention. If the cirrawpondent stili ingias that somese rexolation was arrived at, eireumbtanoees will prove such resolution
to have been made between the heels and the toes of the King and chief and it ended in vagarios of sounde roekesing: over the tops of gigautic shading
treso whieh the coorvespondent artistically described as Otiir and as muxh as to syy such resolution capnot be rosonded in the volame of their leaves in addition to the unfolded history of the place when
the sents of four Independent and Senior Kinga Were twatsith of Independeat and Senior King a *ere wamat, The correspondant will beriefit the public if be
would contridigk Ayelda chiefa statement by meastioning the vory name of the King to whom the Botbor Kinge previonoly gave their consent and
approval to the meetinig and itg object as appeared approval to the meeting and its object as appeared in luiz isat paragraph.
Now let mae tura to the Sal
who meman to believe in tha promises made by the
 promotad to king as scom ans the thatch roof on wroog to hononr the chief with title, of a king aud ted thie attendance of the Borbor whigh obstrucconceded thie idea that the moeting Wing as they for Borbor chiefte and not kings, the niuthority cannot heip. styling the Kingo on this Cosst ans chieff
toayoid eomplications on the nativeg by celling real nubb-chlefor an Kinge. considerato to refuse the invitation under thas very that it in rot ren uncient cuatom that the King of
 fora if chief Ordoce of lmpeeseduadzì heary, of the
movement of the King of Abura to the Otsir convention he may let him know, that he may go and wit pear him.
Thanking you exceedingly for this waste of your
veluable epnoe. veluable aproe. I beg to remain

Oteir; 23/12/02 \(\qquad\)
Dent Sir:-In your issue of the 13th Decembe last I find. Mr. Chatrapton witiag ii reply to my
letter of the ISth November lnat. I must say Mr letter of the 15 th November Inat. I must say Mr.
Champion is Dixeove's greatert enemy. I am, purs. Dixcavian, bort sily to run my Constry dowa it oll what Inad wa
uatrue. May 1 perromanly and on behulf of thi parenis be watitited that the preseat condition of the Day sebool. is matistnotory? Ir repent byain
that the preteat coandition of thia Diseove. Singing


 in the golden deye of the Rov. J. B. Graharn
that of the pressot he would arrive at a vant dit
fatence. Why factonce. Why orft't the Wenteyna suthorition ap
point 'one man whose business wevld be to go and gee how their work le going on although they
have faithal men in their placeas? Well, If I credit Mr. Chamepion with that point viz:-- Mesars Boyita and Godecke hinve distributedt prizes and
have recently ordered soane more besutiful booka
 to think tbat the Day gehool is in a proper state. What mast I pat down for the Singing Band and
Sonday Behool. Mhankiog you for the valuablo apace you have once more atlowed me.
Dec. 1902. \(\quad\) I. P. Menahi.
Dear Mr. Editor:- May I understast that the 'Gold
 twoollapes through want of eitentions and wappret by its
Propritots - The Aboriginos Righta Protection Society Proprietors- The Aboriginos Righta Protection Socits
of the tows and that te to the prosent day the Editor




 al which attempts to accomplifith grout wod with means
that leck ouffeiency, energy, love and purpoee, s purpose




 learves but a wrovk bebind." "The Aboriginey Rights
Frotectime Eociely maty choose onis thing or other - bishers sieze to live of to work beartily and hoosostly for
the country, the race, mad Ged. This ckat of spurious





 ate to a reversal or the present
things.,
Many thariks for the appees slowed.

Cape Coast, zad. Doe. 1902. AXIM IMPROVEMENT.
Duar Editor:- Permit me 5 short space in your valina-
ble coluanna for the insertion of my observation on Axim improvements.
Going alowg
impresed with thin, Fact that Axim bids Inair to be the thinis important twititin this colony.
Notably amonn the to may timge
Notably among the wo may thinqus, which gese me this
imprevion is, my being nabered into a ratber neaty

 R. T. Artburs. big honse

 obtained \& Drugeint License to solf aress in Axim.

 can ver enjof, and will, in time if wol! patrenized, bo a

 the Earipean element not axpmonted, with moly mese men
fical masi to
 to the compminity st larye.
If therefore, there is a d


 smarting, under. Then aino is the foct thet the mimnase
snd chispenser of thens druaza we all know well, that he
 can place rellabte faith in ase wi havn known tim duting
fin osiciai career hin woll-requalsted hatity, hin untiring








 1. Thenking you for the wonce tlow

Axim. Nov. 1902


Figure B19: Evaluation Image 19 - The Gold Coast Leader

\section*{B. 2 Processed images}


\section*{Mr. Bernard Hicks}

79 Mark Line Londom, has the: pheasure to inform Clients on the Comst that he has beea blo to \(n\)
Mathews Wrightson \& Co
of 32 Great bt. Helens, Lomim E. C., Firm of achowhtolged standing and reportathon, to take over the: thanines carried on by him for some years past.
This Firm havin
a yery firicient havitit of mach harger Capitan, and a very efficient staff of hanistats, availahe for
the working of their business, Custonours will the working of their beatinens, Customors will has hitherto been able to onter especially as regards the prompt shipments of Goomk orlcren As the new business will remain ubler his mangement any indents Climts may be phased
to favour the Firm will awheretufore receive to fayour the Fimm will anderetofore receive

The inhatiatants of the Market place and its ricimety are remuriny in siew of the Victoria Parla
 is the indroparte sums whith are being paid in
honse ownere, not sulficient, all rums for the purclase of trosumd much nare for buiking.
There was a bath at ther Cumbasariat Houre on the wight of the 3 thl whe which from all quarsance, catar off nicely:

We reqret to report the teath of A. P. L. Orleams which took place at Acerat on tho 31 st wit.
 lusser, bevides lajitug hestate many buildings

Aruther enrexpondent writes frum Fekomeli
 end wow the hotel there with a Manazeress, erme phing biterly over the oxpegrown state of the

Figure B20: Processed Evaluation image 1 - The Gold Coast Leader


Figure B21: Processed Evaluation image 2 - The Gold Coast Leader


Figure B22: Processed Evaluation image 3 - The Gold Coast Leader


Figure B23: Processed Evaluation image 4 - The Gold Coast Leader


Figure B24: Processed Evaluation image 5 - The Gold Coast Leader

\section*{The Cort Coast Leader.}


Figure B25: Processed Evaluation image 6 - The Gold Coast Leader

Established in 1880
Thelegraphac Address. " JUNIOR"
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- Commission Agents.

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eto, and by every mail Fresh Fro-


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 Opposime tere Mombasa Club, MOMBASA.

All English Coods retalled at English Prices.

\section*{LADIES AND GENTLEMEN'S OUTFITTERS.}
" other produce, \&c., in large or small quantities.
The Antwerp East African Trading Co., Ltd.
d. H. DRAKE,


Clief Agent.

Figure B26: Processed Evaluation image 7 - The African Standard


Figure B27: Processed Evaluation image 8 - The African Standard
just as Macdonald was collecting his troops ways unique The nesdarncan follow with cegtain from what hedsay of the Sobat region
 perial expansion has been oo extensively and ries of marches affitibits. As is well known, wainny debated as this. There are Uganda the rebels ultimately evacuated Lubwa's and
cliques. Nearly everv pro consul whe bas ever reigned bere has his partusands and con troversies about the karious sstades dot the "settlement of the country'nre humerous as the direct consequenee of the great difficuity and prolongation of the oporutions. Macdon ald bas been more bitterly and persistently atacked "criticiscedt is too weak a word taken his unfin Bung an Aberdonian, he has ho does not hek advoentes aman But Mrajor Austin, who had worked with him long before Uganda days, is one of the most loval, and nt the same timo most convincing. The Soudantse who mutinied were the ongev. legaev left to Uganda by Sa Frederie Lagard. They wexe the derelicts of the forees of Emin Pushd and Si Henry Stanley, and in the main not rery good Sondanese, thou, bh a cartain proportion were evcellent They had served
agreat purpose when first introduced into Ugreat purpose when first introduced into wide country. When Mactonald arrived from Englind in 189 , they were hipe for matiny. The momedrate cause was undoubt ediy overwork. The King Mwanga had re cently flel from the capital aud rased a ievolt There had beonaguededal of fightimg and open, but don't make an attempt to stom the nover have gof titro
in hen ramy season. tled acress the Nile, whither they hadith be . X Wheauticor's story of the doinge of his own pursted, Macdonald had to undertahe at the column are of cours of the doings of his own

 hadin hard job of it in the seven montis that elapsed before he was-种le; io piece together 8 expedition agan fnat statt for the north. The ability display ed by the leaders of the Soudanese nas indisputable For instance, they evacunteat Labives witr admero had been no investing fors miles. Thad been no investing toree within as Major Austin shows :
 promontory about two miles across the lak rom thein present fot at Lubwa's. The Sou dunese, he said, still possedse, from 20 to 3 rounds of ammunition pcr man, and had strongly loopholed their fort, which they re arded as impregnable. One tier of loopholes as right down on the ground on a level with acarated pids, in which it was impossible dearated pifs, in wheh it was impossible and add mureh to ong' jknotucdge of
country he traversed and its mhatitants, countiy he traversed and its mhatitants,
especially the magnificent but unreliable espectally the magnificent but unreliable
Turkana, who gave him much trouble on the warana, who gave him much trouble on the
way back. One finds that the actual hard ships suffered by the Austine column before their arrivat at Eudolf do not read so ds tressindsylin the andibtsi retrospect as they
did in the newspaper stories of the did in the newspaper stories of the thime. But he had not his sorrows to seek, and it is
plain from his narrative that if "occuration, plain from his narrative that if "occupation'
 hem Major Austim quotes" with prize hem Major Austim quotes" with pride a got from one of the chiefs he came across Thene is a very little of the information he procured that oang be conveyed withn th ptcimen of his style (which is not quate as the following stetch. "The Svatilis
round the chiof of that afternoon brough Eliopul Kiap of nemolto make fuend with us. Le was an enomously fat man

Figure B28: Processed Evaluation image 9 - The African Standard

\section*{THE MOMBASA STORES.}

> CROSSE AND BLACKWELL'S PROVISIONS A SPECIALITY.

SOUZA JUNIOR, \& DIAS,
Zanzibar, \& German East Africa, Mombasa, Nairobi \& Entebbe.

> :0.

GENERAL MERCHANTS AND
COMMISSION AGENTS.

\section*{Tailors and Shoe Manufacturers.}

Importers o
Proxisions, Wines, Liqueurs,
\&e.
Famous Whisky Antiquory.
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Begg's Royar" whusky.

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Buyers of lvory, Rubber, Gum, Wax, \&o., in large or small quantities
The Antwerp East African Trading Co., Ltd.

\section*{BAST APRICA STORES,}

TALLORS AND GENFRAL DEALERS.
(Next to Mosibasa Cubb.)
\[
\begin{aligned}
& \text { J. H. DRAKE, } \\
& \text { Chief Agent. }
\end{aligned}
\]

Figure B29: Processed Evaluation image 10-The African Standard
providing in reduction in Snlt tax and extend
mat abetinents of fucome tax, shows a sur mitis of \(\mathrm{E} 948,100\).
Londov, March 20. The election for Rye to ieplace M, Brookfiela, Conservative, who has been appointed Consul for Montevideo has resulted in the election of Mr. Heftchimson, Liberall, by 4910
3 3oyle, Unionist
Boyle, Uuionist.
Loviov, Murcy 20 The American Senate
have snnctioned the Panamas Treaty men
London, Marer 20 a serious revolution
y of nationalists has arisen in Uruguay.
I Londov, Murchof. In a letter to the Times
fion the Bishop of Uganda, the Bishops - strongly condemar Sir Harry Johustons propocal in tarour of recruiting Trans La
siun whes for the Tiansvaal Mupesst
London, March 90. Reuter's agent tele
e graphs flow Bloemiontem that there is
evtreme dissatsfaction in the Army garrison
ie ed in the new Colonies owing to the faxt
it at the majority of the troops as well as
it ma officers and their wives gte stidl living
e man officers and their wives gte stidl living
ad the class 0 recruits that are being sent out
as
many of the are mere boys and are scoffed
s many of the are mere boys and are scoffed at openly by the utch.
loxpy, Mutch 0 In oonsequence of
\(r\) the striking victorios of the oppostion at

\section*{THE ANTYQUARY.}线
At table strewn with hooks 1 saw him first, Fis nind and cye alike, on hnowledst bent ; Most eagerly be moved from page to page: Most eagery be moved fom page to page:
Then paused awhe e, of fo at lenst content.

But then we wan nut giati he scanner each elosely printed page A smathounk figure, full of hfo and five; Sceking the treastre of 't leng pismef mine.
I thought with shame upon me ide state; Of why thoge tomes had never chainest my
looks?
 Quite buricd in a phle of musty books.

In the earher iduys of the Mission the
time, and ull.eari, giter of this com munif cently. Civen a commanding personality chef, there in no hanit to the bersice of thas type that can t, rot trom the people. Schools are now entuels in th by the people; we have more than sevents of thicun. Most ot these are fuitt of revts an, thakes, are plastered and thidfened, and ane seated in a yough of this ty pe is not more than \(£ 3\). Recently, howeser, hrel sehook are being erected by the people Last year ivve sehools and \(a_{0}\), clurchlysere builk, but this year mote than double that mumber ate promsed These are
vatueble properiv, a continual lesson to the people, and arc tle pide and delight of the builders. ln mans another form this contriution of free labour expresses itself. Month y month hundreds of mestngers-carrv little loads and letters to and from the large net work of schools winout pay, Roads ares always berg tade oi atpt in yepar, station
grounds are swep, and school huses are cleaned and smeared esery week withou pryment. At II Pot we fried to engse four women. But no one would take up the work \(1 \frac{1}{6}\) was too heary, and 8 c , had to fall back on free habur. Now schools and chateh are
regularly cleaned without a grudge and Without cost, \(1:+\) af \(t ?\) 'nce \(r\), the

Figure B30: Processed Evaluation image 11 - The African Standard


Figure B31: Processed Evaluation image 12 - The African Standard

Pertit ent to our last week's culling from Tr, in touching a certain correspondence from a Mr. Ampah of Frankfort Chambers de de, Cape Coas:, we rgan cull the following from the same paper of the th De ember last, our comment, on which we! once more reserve.-
"It seems that the letter from a Mr. Ampiah to a London Tradesman recently published in Truth is a sample of a very common class of communications from that part of the world. The busmend notions of the nigger trader are evidently somewlat chaotic. One of them writes to a correspondent whom he addresses as a "book seller and news dgent.'
"Your name was highly recommended to me be a certain trend of mane that yo are the be t wool manufacturing, so that I want your Samples, Catalogue de de.
' In another case two ingenuous youtho wrote that they had heard some black \(m\) 'n wore wantel to learn the book trade, and proposed io come an receipt of Tickets for second lass salown pasage to Hagland

Whth sincere regret we announce the quite un timely death of Miss Joana Clarisa Thompon wh wh ocepred on the last day of the past year., Sher was the affectonate dayghter i Mr. J. F Thomporan of the Tremsury and niece of Rev. Fivar and Barmiter Kofi Asam. For semetime she had becualing from aome malady which certainly never suagested the antucifation of this and occurrence. 'For a wirl of cuch amiable and respectful disposition to be cut off in the thower of her age is aflleting inderd and heyond what the human pen could deser he fo the bereaved tamily we tender uar sympathy macere and unalloyed.

Kwodwo Mensah, a clever young Bricklaser, brother of Mr.J J. Kofiof Alourinim dhed abdhenli an the lat inst. It appears he was shghtly indispused

How many wore with us 10 the field during the pant year's bivouscking we cannot estimate, but the fact certanly brings to our remarabrance, the re collections of many dear ones whose company and faces we chall never have the pleasure of shating and seeing an earth; for since the divine edict went out-"Dust' thou' art, and unto dust shalt thou re turn," it has had ite vigorous operation, making no distinction between greas and small, nch and poor, the man of many zarroundings and the orphanFor it is an order that must pass on all men.

Whatever the year 1903 has in store for us 18 a mystery known only to the Great and mercifal Creator, the Steersman of our destinies. But we must surely be vigilant as become men waiting for unexpected event, strange apparitions and unpleasant occurrences, especially in this Gold Coast of ours, the land of strange and nnezpected, \(\mathbf{v}^{\circ}\) sions.

At the onset we must wake up from our long and miserable lethargy, if we must achieve some good reforms the year. Our fathers in their time play ed them part well and we shonid for shame play our part well and as mach as hes in our ability, so that we might leave foot prints worthy of the tread ing of our immediste succeasors; and at the end of the year may be able to ejaculate congerentiously
"I have done what I could during the past year."
And now, dear reader, I wish you a happy and prosperous New.Year

Yours faithfally,-AT00.

Which the Anamaboe correspondence attempts to hide not thinking that the public could judge other wise by the portion of the oorrespondent which runs as follows:-"The abeesoe unavoidable or otherwise, of the majonty, however had a tendency to complicate matters but those present after much consid eration arrived at a resolution"

Those present being the King of Anamaboe and Chief of Ayeldu insufficient to form a quorum were indeed complicatedin the absence of the majonty and arrived at no resolution though the correspon dent alluded to one in his last paragraph -

The Ayeldn chief unfortunately for the corres pondent let out the names of the King of Anamaboe and himself sis the inventors of the Otsir convention, at Cromantine and made matters more suspicious that King Otsibu's messengers were waiting for him at Ayeldu to hear the glad tidings which is the resolution of the Borbor Kings against the King of Abura on their behslf Re- his clain- of the A'ssin land, hence it was a disappointment to them in consequence of the non attendance of the Borbor Kings, yet they shall meet sjain.

Both the correspondent and the Ayeldu chref were oupazg to omit mentroning the valuable hants they had that the D C. at Salt Pond had been or dered to retire them at once, the actual cause that hurried up the closing of the convention. If the correspondent still insist that some resolution was arrived at, circumstancea will prove such resolution to have been made between the heels and the toes of the King and chef and it ended in vagaries of sounds rocketing : over the tops of gigentic shading

Figure B33: Processed Evaluation Image 14 - The Gold Coast Leader

\section*{ADVERTISEMENTS.}

\section*{Mr. Bernard Hicks}

70 Mark Lane, London, has the pleasure to inform Clients on the Coast that he has been able to make arrangements with Messrs.
Mathews Wrightson \& Co.
of 32 Great St Helens, London E. C.; \& Firm of acknowledged standing and reputation, to take over the business carried on by him for some years past.

This Firm having a much larger Capital, and a very efficient staff of assistants, avallable for the working of their business, Customers.will undoubtedly reap greater advantages than he has hitherto been able to offer, espemally as regards the prompt shipments of Goods ordered.

As the new business will remain under his management any indents Chents may be pleased to tavour the Firm will as heretofore receive his best and personal attention.

I hanking you for your esteemed commands in. the past and trusting you may do a large and mutually, satisfactory trade with the Firm in the future and sohering the continuance of same.
J. D. AAKU,-Agent.

To be let one Large Store nn De Graff's Hall formerly known as Holdbrook's Store. For particulars apply to Mr. J J. Kwofi, Jerusalem Street, Cape Coast.
time. It is a pity the Court of Justice should be subjected to such indignity.

Number of dasths for the week is registered at 9.
MOVEMENTS OF STEAMERS.


Figure B34: Processed Evaluation Image 15 - The Gold Coast Leader

\section*{The Gold Coast Leader.}

THE GOLD COAST LEADER. PCH1SHED GN SATOPDAY

TERMS OF SUBSCRIPTIONS
Payhble in adeance.)


ADVERTISING SCILE.
Advertisments should be sent to the Chare at saltpond Road, at least the


Syecial armarements ean be made for advertisements for longer periots.

All Commomicatoons intended for pub heithon shoulthe addressed to the Editor. Business Communzations and remit tances either in Cheques or Post Ottice Orders should be sent to the Manager "Gold Coast Leader" Olfice, Saltpond looad, Cape Coast. West Africa.
For copies of the puper please apply to the Stores of \({ }^{\text {of }}\) mes E Aktrun at Chapel Squarester Intin Street. ADVERTISENTS.
Messrs. McLaren Bros. and Company
of Manchester and the Gold Coanfere prepared to let Wheir Will and completo furm hed Rooms (montern styiu) at their Houses Sed Sekond
 shate at the hirrect and Poasse Road. Cook and cooking utensils at hand.
Tor Particulars apply to the Cape Coast, Fikond ant Axim Ageneres, and Head office :a ' Mount Strew. Manchestar
H. Reserald. Ayovoo

Cape Coast, Vov. 5.

\section*{PUBLIC NOTICE.}

1 the undersigned hereby give the public thin Dotice that I own at that piece or paree of land staste and being between wde by the road leading to. Kwabotchay, a puttion of which is included in the public road, ate one side by the road leadng to Aboom Wells, a portion of, which alse is meluded in the public road, whath separates the property Gum Brown and Pietersen's and B B WKwofis plantations, on one side by J. P. Brown's land Hausa Cenetery: which whid pecaior parcel of land why purcianed 98 years ago ty the late Willarm Martm of Cape Coast directitrom the wit Heal Chiet Quasic Attah of Cape Coast with the knowledge consent and concurrence of hax Headuen and Comaeilkors in dute form of conveyance which 1 now hohl; and that any peswor persocs foum trespassing on the say property or any part or parts thereor (except fram parts of public roads) will be dealt with necorting to LAW.

Cape Const, 3 rrl December 1902.
Writer and witness to marh,
Basnebman llarity.

N 0 TICE.
We the uatersigned for ourselves and on be half of the inhabitants of the village of \(A\) gram in the Disthict of Elmina do berethy state for the information of the Public in genwal that as Kwamma Assmamaah has been destool he is no longer the. Chief of that village.
Kofi Exsadoo has been installey in his stead village or any lands belongmg thereto to that be unade to him as Chief in authenty in that villagu.
Dated at Cape Coset this ,th day of Decem
ber 190). their
Komina bisespar
Qums Asts

T. A. Dowlic:


\section*{Mr. Bernard Hicks}

79 Mark Lame, Londem, has the phessure to inform Clients on the Coast that he has been able to make arrangematis will Messen,

Mathews Wrightson \& Co
of \(3^{3}\) Gruat At Helens, Loman E C, a Fima of achnowfonded stambing and reputation, to take over the buniness carrict on hy lin for
This Firm having a mueh larger Capital, mal a very efficient xtatf of assist ants, avaihable for
the workizg of therr buainens, Customers will undoubterlly reap spreater aivantages than he has hitherto bets whe to other, especiatly as regards the proxpte shipnent of Gools ordered. As the new businces whll semam uader his monagement any infents Chimbs may le pleaked to favour the firm will whertolore receive his best and persomal attention

Thaighing you for your entectaed commands and muantly, sativanteny trade with the Frm in the future and soliciting the contmanace of same
\[
\text { f) A } 1 \text { Klt, dymf. }
\]

A Proforional book heqper many years emo nection, hesires cmphntent at Cupe Const or elsewhere For Ealary ke, atply \(A_{p}\) mil ro Editor.
TO ALL TO WHOM IT U IY COMCERN!
The public may plente take notice that in accordase with the Documents and paper, prohibiting nur Evecutondip to the Extato of the bate dames Quashas of Kwaman and Salt pond win tibion the 3rd. Sept. 1961 at the formerplate, dated on the stamping date of Sth Yay lat No. \(1698,0^{\circ}\), ) Having been given to tis the umder signed by the undementioned partics mombers of the relatives of the above namel tecease, namely Yaw Whum, Amla Kuna, Ekna Osam, Amba Ekuwa, Ekua Afrumba and Kwa Appiah of whose letter of admmatratag were duly granted to us by the Divisional Court at
Cape Coxat ance the 17th day of - Deembur Cape cast mace the 17 th day of - Deedabor no more Executors and Alminimaturs to the Estate of the above named deceas. In future all hetters and legal claims concerning it mit be sent to the deceased's relativen atoramon fionet. Dhatef at thamabe this liths thy of Decesnber 150).
W. R B. Qransen

Dasme. \(A\), Jubsex
Former Executore and Administrators to the above named deceasc.

GENERAL NEWS
\(\underset{\text { Mr }}{\text { Mir }}\) do Guaft Jolingon gave a breakfast on anday the 'ith inst at hisy nex Luthang hawatuparia.)
 apparance the Soceiety is in a thourishisy condition Atlien:
The llarmattan yeawo has been rather swaper thas your Tradition tells ne this is an indication of at
 divery detestand

The Nerry wo roum has contributed largely to

Some of the Buntsit pruphe who were arrested be other day have bern seotencell to mpprivnment. The Makwinulhe Clint had ther yearls rectres tions
Day.
The inhalatants of the Harket place and its Fieinty are remowing in a iew of the Victorta farls is the inadivetato suans whech are being pard to bonac awners, net suthisient, all retustif, for the purchase of froumb maxh nure for butiling.

There wav a bat at ther Comamisurat Hoble on the bight of the 3eth

We reuret ta report the death of J. P fo Orleans which torik phice at Acera on the Blat ult.
A carreapondent writing from ohasis. reports a forsees, bestides las ing destate many byilding

Anuther correxponderit writers from Selmadit Whu after remarkng on an unfulbiled promiey of
 phains biturely wer the aror krwa state of then "fropy ground of the Hotel premises" with "gra' \(\alpha\) "

 aud suggesty the cernenting of the pased grouad.

Priment to our last week's culling from Trwih
 we again cull the following irum the same paper sit the ith 1hereaber lant, war cembent, on which we once more rempent.

 from that part of the aitld The bustimese notionto of the ni.ger traler are evideutly somaphat
 whan be "Xour name was highly recommended to me by a
 manutacturing, so thay I "wat your Sampleth
Catalogue de de.
aln anatherease two inceruyens southe wrot that they bad hererd ente blatic merg wore wanterd learn the luesk trade, and propessed so conat . rercipt of Thikets for sectrad , lats saloue passayt to Ewghand \({ }^{2}\)
With sincere twat we ammaner the guite ma timely death of Mros, fatha Clarisa Thumposat whim
 the Trtasury and niece of her. Foisir and barriter huff Asatis. For menetume she laad brewa alin, from ame mataly which eeriaialy newer iatatested the unteipathen of this vad occur rence. Tow a wria
 wo cond what the humas pro could desernite. T the borenvel tumaly wo teader war syupathy oncere and unatloyet.

Kwodwo Mensab, a derwe voung Bricklester the lit rust. It dypears he was wighetly incuispused

Figure B35: Processed Evaluation Image 16 - The Gold Coast Leader
for a few dayb.r. Wo tender, our beartielt bym. pathy to the bereaved family
Number of deatha for the week in regivered at 9.
We deeply regret io have to record the death I Mr. Francis Chapman Grant which took place and the Foresters attended his faneral which took place in the evening.
Mr. J. D. Abraham also lost 2 brother the day bafore (Friday.) Anat he was called, a brickinyer
The bereaved familios have our gympathies.
MOVEMENTS OF STEAMERS
OUTWARD.
\begin{tabular}{|c|c|c|}
\hline & \multicolumn{2}{|r|}{Due at Cspe Const.} \\
\hline Camerocn & S. W. Coast zervice & Dec. 30 \\
\hline Sekondi & 8. C. Express service & Jat. \\
\hline Warri & Opebe service & 8 \\
\hline Acera & Brasя gervice & , 11 \\
\hline Burutu & Layos Express service & , 12 \\
\hline Eguanga & Opoto service & \\
\hline Coomassie & Brase ervico & 25 \\
\hline Volte & S. W. service & 7 \\
\hline & HOMEWARD. & \\
\hline Icanda & Brass service & Jsn. \\
\hline Roma & Opobe Serrice & \\
\hline Olendin S & South Coast accel- servioe & \\
\hline Fantee S & South Cosat Express Serv & * 9 \\
\hline Tarquah & Soath Coast Exprest serv & , 23 \\
\hline
\end{tabular}

\section*{SERUNDI.}
(From out Conrispondent.)
We regres to report the death of Dr. Sandersor, Sho among other passengers from England by the
S. Tarquah arnved on the 9 th wlimo. The decented touched the tropreal noil only within an hour and a half, and died unexpectedly. His
bereaved people have ours sympathies. bereaved people have our sympathies.
hy the roar of a cannon and nt exrly dawn the ville Boat for which that signal was made, turned out to be a cratt. The offecials who hurried to the beach at 4. 30 . that xoorning with the thopes of
welcoming His Excellevey, the Governor on board welcoming His Excellevey, the Governor on board
The Phrlipperille were not only sadly disappointed, but rightitly served, the kignaiman having beenk gufficiently pressed to do that daty, and as a matere of fact His Excenlency did not land here as was expecterd. The Case Rex o. Grant ferminated in the
ncquital of the accused on Tnesday the 16 th nequital of the accused on Tuesday the bern last. We lienr a fresh warrant has been lseued againat Grant for a second act of felony nand the police are fiahing up every quarter of Sokondi for the youngran. As the case stands there is werery reason to belitere that it it the setion of a secrel
Agency But it is a pity that peopla can be found to be so silly and ignorant as to beliove all swach trash and foliow up the instigation, purely sentimen tal, of simpletons sind avepgers who simply do that to give "Roland for an Oliyer."
On Sunday the 28 th vilume, ap unusually great nuisances about some remote portions in th precincts of the town. The police, ta they call themselven, are bat scavengers disguised like the tinw in borrowed plume The increage in in
popaiation demands is permanent way an
hdequately scod number of latrines after the ndequately. good nuxberr of latrines after the nind he the Acora and Cape Coast. Tha in the outakirts of the fown could be reasosably effected.

Of late there have been frequent interruptrona hied celegraph lines, brt during the week for have we ask the canke of this frequest uxpleagan
occureences? If not from the Forexami o occurrences? If not from fóse Forranagy of
Telegraphs, we may righty surgess to the Govern ment thee neceasity of sobranch exble beiag laid connecting Axitrased this place, between whic most of the interraptions oceur.
A party of railway oficiala headed by the Chiet the inserior. The expodition, ss uuderstood ts 30 arrapge mattery as regards traffic on the line now opened to Obsasie. A very noble worly!

\section*{- 4 , Chama}
(Fhoz our Correspondrat.)
The local School Tor the Clisuman Augary. A burgiary wse committed at the store of a linve not an yet beem dizoovered. We would suggest that the authoritee provide this place
nights. What can threo policemen do at auch a densely populated town
We regret to learn of the indipponition of the Superintendent Minister of this Circuit. We what im 3 apeedy
The Sanday. School work bere has not heen lack Soperintendent is working sssiduously and cons quently the work done by the Scholars is of a pleasing and commendable nature. The Chams Wentevan Mission House is a mode
of what a Tropical Misaion premises should be.
It is reported that a braveh of the Sokondi
Raitway will soon he laid this wny. We bope this Railmay will soon he laid this wny. We bope this rill prove to be a trae report.

ELMINA.
(From our Corgrsponnkst)
Mesary F. A. A. Swanzy are putting on some tomporny repaira
As yet no retiaf has cotne for Dr. Browne. He doee not seem likely to sit orer nay more eases in he D. Ga Court
We unde
succeed him
It is anid that veiv tor
present for doctors on this Coast, the hodiders of the posts having resigned because they do not wish to bs humbugged \(\begin{aligned} & \text { Fith magieterial work. All the }\end{aligned}\) Cases in the D. C's. Court have been adjourned
eine dif. ane tire.
Mr. Matteer died on the 18 th of last month The S. S. Cameroon is due here on the "9th; in the Southera Windward Service are to make the trip between Lisesponl and this port in thirty nine days-- an improvement this is.

\section*{ACCRA}
(Frow ofr Correapomdemt,)

The Juvenie branch of the Free Gardiners Ladge (Friends of the Gardiners) held its second Ansiversary on Thurgday the 25th December last by a Thanksgiviag Service at Holy Trunity Church at 2 p. man, the Rev. Hastings Ketk B. A., Colomaa Chaplaia Olficiating. After the service the nem bers paraded througu the towa with a Band nocom.
 many ladies onanatiafio (adolt members) and Broce Amotia Broce Evars, Vietori He Mr Tane Bingy, Asorfir Howe (Bro Joln Arthe', wherg toons "Fork and Knife" Tea was served
The Accra Races under the Pratronage of His Ex celleney Sir Matthew Nathan K C.M.C., R.E. came off spiendidly on Boxung day and the day foliowing Torns and Christiansborg. Mr. T. E. Fell, the rider of Major Kitson's Bekwai avd the winner of the Governor's Cup with \(\boldsymbol{c}\) : 0 . mast be specially congra tulated.
Mr. C. J. Bannerman's fatatoere won the Max
woll Memorial Cap with \&10. The Governor's Lesaor Product and Greater Product won many prizes. The Tritly, the fanous runger and wibner of many prizes, owned now by Mr. Bonso Bruce, lost all entrances this year.

The tower in coares of erection to the Holy Trinnty Chureh is nearing completion
The Harmatlan winds bave set in and have bean blowing fercely.
Mr. H. E. Barker, Agent of P. \& A Swanzy ar rived here from Cape Const by the Burutu on Cliristmas Day.

EDITORLAL NOTES.
To the fathionable and the conventional the festive seacon has entailed great expense. Here snd there, there is no end of exchange of gifts in every shap-in every form.
Perhaps there has been no Chnstmas in which there have been so much animation and joy and plessure as the one which has just
closed. Young and oid, great and small, the doctor and the fool-all have joined in the uni versal jubilation:

And so we are apon the thresbold of the New Year. The old year the ycar 1902 has
fown into the bourne from wheace it will never return, and with it, its joys and sorrows its failures and suceessee, its disappointments, its bereavements and losees whatever we have son to dispair. Now is the time to profit ty past exporienees, and to be better nerved to face life's struggles. Withal let us hate hope hope which is much needed in the stress and gloom of whatever betide.

But for all that we will not omit mentioning the fact that the old year had been a very sad one to the community; young and old, rich known
To all who bave suffered during the yoar, the Lecaner tenders its heartfelt sympathy, and praye him the and consolution of sorrows to grant them

But while tendering to all our friend far and nese the compliments of the season, we take the opportanity to thank our subsctibers and other sympathetic friends whe have testi find up their sprectation of our services by pay ing up teir dues promply ami rerutarly It to greater energy and determination for pres perity and success.

Thanhs to goodness! Our detractors beforor this paper was launcled, prefiet ad but a short eareer for it, many wore loud in the vain as sertion that it whid not reach a successiuf days of its existence But be it to their ds credit, the "Gold Coast Leados" has had the happy fortune to see these gloomy pronnos tics belied. The "Leader" yet hives. It has not given up the struggle for existence it means daty and given duty, its destiny rest with the Grest Director of events. Good bye
Aboat four years ago a dignitary of the Chureh of England speaking at a merting heid at Manclester by the members of the Socety formed there for the Protection of Native Races sard: "There were three thungs they were bound to endeavour to aim at. First we should aimatjuatice in every part of our Empire whthout reference to colour or ereet. Next, we of bringing all the west inflacnces of cithe thaty for the benefit of all those populations which belonged to our Empre. But our greatest responsibility of all was to endeav our to carry into those populations those blessings of the Christan fife which are the greatest blessings in our own homes and hese."
When we look at how we are governed out here, when one sees what is froing on around us When we observe the doings of the repre what a between the actions of these nem and the nobl entiments expressed here? Is it the funlt of the men on the policy they have to parsue out here that this alference we spesh of exista? willing and cheerful sabjects of the British Throne, that is, if'we are to be accounted a part of the Empire.

We do not consider the treatment whtch has been-given to the Bentsir people; arrested th have been fined s70, or imprisonment, whai for, we cannot tell. How ergily the Government chest can be filled. But what is their charge And we are told that the officer sent to arrest them in the wry fired into them. This is Perious affair and we hope His Worship Mr Peregrine will look into it.

The report goes that the men refusing to pay this amount (fourteen of them) were starved probably to make them pay. Food is no supplied them nor would their people be allowed to take food to them. The observan ones among us think that the treatment now given to the natives is very hard and most aniair as compared to what it used to be. It is becalise more money is wanted for travelling and tuty allowances or there is an urgent need for prison labour.

Figure B36: Processed Evaluation Image 17 - The Gold Coast Leader

Really what is go
noote un-Eng lish.
It is true that "economy is an " that economy which makese Government Offices fal especially if welook atit at the way, fines (and heary fines too) are inflicted for every mortal thing, no matter how trifling, it may ba. Is
Covernor Nathas also likely to disappoint ug Covernor Nathas also likely to disappoint us
nas a Governor? What is there on The Gold Coust which works such changes in our Govcraors.
Last week. we reported in our News column, abooting at some pigeons in the front of his own louse, and the doctor himgelf has a reguiar
duaty shootine st them. It is aiways an undatly shooting st them. It is aiways ans un-
pleasant task for wa to call into question the tection of an oficial, and it is far more so for tu on this cecasion to do so when it is the doing of one whour we have always respected and consi-: dercd to be one of those oficials who command our reapect. Why did the doctor haw the
kualeman arrested? Does he hold a montopoly twe the birds at the Consur's hill, or hoid a
tience for them. it goems that any offial hiembe for them. It geems that any official
cen akk for the arrest of any one he puts into cotn zikk ior the the arrest to have arrested

\section*{governor Nathan and} SEGREGATION
Anent the West African governors it is much to be regretted that Sir Matrini Nathan wbo
had made quite a repuation at Sierra Leone for had thade quite a reputation at Sierrat Loonc for practicat sympathy with the astive, should bave
teviated from this policy and taken up the idea of segregation which is opposed in principle to
the basic idea of governuent. Government the basic ides of governuent. Government
covers all and places all upon an equal plane, while segregation separates a particular class for epecial treatment and is in direet conflict with the equality of treatment idea. The fact is no government which true to itts tradition would undertake to eet up a plan of segregation
und the segregation seherme atiopted on the Gold Coast is only adother form of the fim Crow car trrasgenamt in the United States. A policy of the kinct can hardly be esteemed helpful in the way of consolidstion as it is bound to produce
the uniavourable impression with the native that the government meass to set up a line of thas the goverswent means wion between its constituents. Sueh an idica is not csleulated to inspire confidence and loyalty with the people, and the governors
who are toying with serregation are not perhaps who are toying with segregation are not perthap politieal significance. It is not by a policy of Negregation that lmperial interests are promo ted in West Afries, and British rule consolidat ed, bat by a policy of understanding the native his contidence.-Lagos Recurd, Dcc. 27 ,

THE ARRYYAL OF GOVERNOR KING-HARMAN
The hearty welcome necorded Sir Kivo-HaRmax by the people of Sierra Leone on his return from furlough testifies to the fact that in some way or other Goverror King-Harman has ae-
cuired a strong hold upon the afictions of the tyired a strong hold upon.the affections of an
people. It is the prerogative of a governor, and indeed ought to be his first object and daty to sequire such a hold, for it shows mors than any" thing else that he fas been sadministering the govertament wisely and well in the interest of
the movernet. The people do not tahe to governor for nothing but are attracted by the *ympathy which he evinces in their welfare ex pressed in the practical form of a policy direct cd to promote the interests of the people. It is not given to every governor to inaugurste such
a policy, which is dictated by a deep regard for the governed. Tlis regard is tbe test wlisch the native applies in the adjuagment of the new povernot whose evory act gnd action as relatwith the closest acrutiny, and pot either to the governor's credit or to his discredit. In this way a general opinion is formed and the gov ernor who shows by his policy sad treatment o the aste hat honat and anuine desite to \(d\) justice to all 'alike, will not fail to accuire strong hold in the affection of the peaple. The greeting accorded. Sir Kina-Harkas stamp
him as a governor of the right stamp, and one whom the peopie of Sierrs Leone believe in and can rely apon, and so his work of xdministration will be, remdered easy as well as the people working with the governor and the goversor with the people. No doubt nor discord can enter into such a plan of administration for the simple sud sufficient reason that the desires and needs of the peopie con-
stitutes its inspiration and object.-Lagos Restitutes its insp.
cord, Dec. \(\% 7\).

REUTER'S TELEGRAM.
Dec. 26- Venezuela has azreed to nubmit the the thleckade is raised and leet restored. Portion of the Eomatiland forre has proceeded to
Obvia, Itsly agreeing to fucilitate dueembarkation.
to correspondents.
 Wouching the wollate of the Coustry is iuvited.
Wodo not hot howerver bold ourselvest fesponaible for the viyws or op
pondenta.
 A nom de plame or initiale ohouild be, given if it io io
 Chormunications must reach the Ofice not Jator then Bejected conamuncations eannot be returned. Cosmunications to which replies may be oxpeoted
coust be sccompunied with Stamps.

\section*{The Gold Coast Leader. \\ CAPE COAST, JAN. 3, 1903.}

> A NEW YEAR'S GREETYINGS.

For the first time the Leader has to greet its readers, of all shades and characters, with one thP NEW YEAR. The year of grace one thousand nine hundred and two has just
left us with all we were and did, traveling to the bourne from whenee years retorn not. A solemn thought this. With us ss individuals or cititens of thit Country, with those of us who are called upon to play an important part in the making of this Country, socially or
roorally, the year is gone wilh all our deeds (or misdeeds) shortcomings, or derefiction of duty.
we m
these : As as native of the soil, or otherwise have 1 done anst duty, according to my position, infutence or knowledge? Hater 1 Berved myaeff, wa" people and Country as I shoula. taken it the enswer to these may be, 1902 has taken it along with 1 t, to Him whose we are, and to whom all in the flesh sre accountable.
To day we stand on the thresbold of another yesr-1903! None of us has travellanother year- this way before. Is it likely that if spared, we shall go over the same road agsin
in all that we may have to da or that may be in all that we may have to do, or that mixy be
expected of us? Or are we gonng to retrieve expected of ux? Or are we gong to retrieve
lost opportunities? "The times sre hard." That is the cry now. What are we going to do then. Trading or Concessioning thould not and ought not to be the only business we
should interest ourselves in, we are to live snd should interest ourselves in, we are to live and
not merely axist: If we must rise as a people we must not be ashamed of labour-not refined labour as it were, but hard, honest labour, doing with all our mighs whatzoovier our hands may fod to do. To think that to
be s gentleman, we muet all be clorks, becaube be a gentleman, we muest all be clorks, bueaibe
wo have seen s School room is a mistake which is fast ruining our Courtry. It is high time we gave manual habour some attention, time we gave manual habour some atteosion,
snd the other findnatities in the Country claimed our serious attantion. Evens those who are
engaged in trade are ever crying, Trade is engaged in trade are ever crying, Trade is phase of things aitered. How, it may be agied, and the finding out of the "how" will solve the problem. The only charge often laid at our
doof by those who look at ur with the eyes of door by those who look at us with the eyes of
twenty centaries' civilization is laziness. We rightly reenent this. As a people we are not,
but when we mast depend on them entirely for but when we muat depend on them entirely for
everything and allow ourselves to bo wholly
anghieized, laty peopio we shall always be to
them. Think this out for yourselt he!ps those who help themselves' is a trite say. ing, but the truth it enumeiaten is as old as Then the politician: we must edrnit, that the pelitical atmosphere of this Country, is inimical to the growth of any one who mas interest bimself in the politics of the Country. Everything is against him, and he becoraes at
once s paarked man. Men whose sires have once a marked mas. Men whose sires have
fought for their liberty, and they themselves delight in seeking for their rights are able to consider a person who does the sampe thing for hie Conntry, a digturber in Israed, or inpedi-
ment in their way, one whom they may ment in their way, one whom they may
strangio st the least opportanity, forgetting probably, that patriotism exists as surely ia the breast of the black as it does in the white or is the Asiatic. But He who defonds the causo of the RIGHT, apd who defended, the cause of their fatbors, lives, and will defesid
ours, however gloomy and dark. things may seem, for be is so reapecter of porgent sad we may add, Do reapecter of racess for He
made them all. made them all. wight may besis night, but os ourselves. Who does not know that in this Couptry thinge are done which cesmnot-bo dreamt of in any of the Colonios under the sygtemi of the Crown Colony Policy? Why
this high habdedness which is displayed in tbis high handedness which is clisplayed in
everything done by the Powers that be, with everything done by the Powers that be, with
us? Why this oppression that has been existing so long amongst us, and ns now riding redhot in our midst? Because we are aggiuat each other, ourselves: bocange the foxes the
litio foxes, (the pative informast9) spoil our lititie foxes, (the native informants) spoil our
vine. We cannot tell what amount of mischief these bave done end are doing in the Country.
But wa judge no one. They have judged sad Bat we judge no one. They have judged nod
are judging themselves by their own actions. But becunse our mavements are closely watebed
and reported on, becanse our doings ars always grossiy miareprasented, becauge cartloads of faisehood are doled out to our dissdivantage, only to serve as stepping stones for
them to rise in the favour of Mitord to and so, or them to rise in the favour of Mitord so and so, or
Sir Kuight, or his armourbearer, when woare not actuated by any 1 if fobling ggainettany one or evil intortions is what we do, but to see that wo are not anneceassarily trodden upon, skall, we be disloyal to the Fatherland? We are: alyays taiking of opprassion, and finding fault with his and that, odead to our own interest, nad oun raitors to better f"New") year
Why cannot this year witness a deepar, and industry" It ig true there seems to be a policy existring amongst us which has for its watchward "Down with the blacks" is the govern" mental or mercantile worid, it is true that our worse enernies are from our own rapks, it is true that we see no streak of light in our dark cloud, and if snything, thange are getting worse, and worse, whilst they are represented differently alsewhere which makes as to sppear to exist for nothing else bat to be overlastingly croaking and findeng fanit, and it it also kue that it geem that thinge shail ever remain as they are of which we are airway complaining but we ough not to despair of anything, bat Cas Cound neek not to win the favour of any one; we do not ask yon to aet your if ageint ain one, we aek you to ierve your day and generation better this year, and there are mant/ ways through which you cesi do this. A HAPPY, AND PROSPEROUS. NEW YEAR to all

\section*{SCRUTINEER.}

Once mare the aoleran tinkling of the midaight bell reminds us that we have boeer innuarged iato tagee, gloring, blousingo, woeks, templutions, happy und raouratul svonte hins powind -arcty, gont, zonse for ever and rolled into niersisyl Whatever wo. did whethior morda or immoren in pmot realling,


Figure B37: Processed Evaluation Image 18 - The Gold Coast Leader

Bat though we are not to look into. What hat been perpetraved and goxe, it is not required of us to continunly at unconnerned in this chronic arat
of intectivity. But thie much admioniohes un to endeavour to lead such lives that each succeediag day
nayy seem hester and mare profitable to us indivi may scenm hetter and, mare prof
dually and to our generation.
We buve surely left undone those things which F"e ought to have done both in our religiouk, poli-
fical and socisl duties. And on the other hand we have not left undone sxch onormities as indulging

 interesta, and in on
snd woful capidity.

How many were with as in the field daring the pant yesth bivouschivg we cannot entinnte, hat the
fact certsinly brivgs to our rempapabance, the rev. collections of many derar ones whope ompany yand
faces we ohall never have the pleasure of dhating and seeing an earth; for since the divine edict went out--"Dust thorist, and yuto dutt bhalt thou return," it has hatd its vigorons operation, makking po
distinotion. botwean groat and wimall, rioh and poor, the rama of miny sarroundinga and the orphanFor it is an erder that must pass on all men.

Whatever the yexr 1903 has in store for an is a mystery known only to the Great and katerciflo mutat aurely, be viginnt as become men witing for
 ant oecurreopers, especially in thin Gold Counh \(o\)
the lasd of strange and unexpected, visios. the lasid of strange and unexpect
At the onget we muas wake up from our long nad miserable lethargy, if we must achieve nome good
eforma this year. Oer futhers in their time pfay d tiseir part well and was should hor shamese play sut part well and as much at lies in our ability, \({ }^{\text {and }}\)
that \(\% \theta\) might lonve foot-printe worthy of the tread ing of our immediato succenerors, and at the and of "I foyre doze what I could durimg the paat year." "I hase done what I conld during the pant year. prosperonai New Year. Youra faithtally,-AToo.

THE FISHERMAN OF CKAMA
Prom time damemorial, the intabitants of the
fishrg town of Chama on the windward onest, fiking town of chama on the wind ward onast,
hive been regarded by their brotiren of the otherr towns as not worth their milt, on sceconst; it is said, Tradition tells un, that in the dayy of the
 own, 2 fizborman by profession, being dexirons to
smoke it a rather late hoor, kud moc haviag th necobsury to light his pipe, went ont in search of in
 fire with whioh he lighted his pipe, andionmperk od
 a ark of fire, and at a last barat pats, in a the litequite ing tone, "My word what a wortid of troubie I have gope through st this very late hour for thie little

 proving the trath of the old anying 'where there's
will thero's a war.' To prevent the same troable as is future similay oocssion, prevent the saume troabbe
 spy purpowe lor, th the reery lewst, the nert two

 With hinself; and with a Hght heart, procesidod to

 oxcluimed. "This littie mpart of mine hat been the


 their indebtednewi to met, by prosenting mo with a
tight lition tight litite maios ind a sete of neta" Fithont

 powty the whote popplazion of the town menembled
they had assembled there to do thim honour for his
benefochion to the community, nad to Bmokers in
particuibr. With an asmmed nigr of consequence partieulise. he landed; but unfortunajely, vin are
expectation.-Western Echo, Oct. \(23,1886\).

LETTERS TO THE EDTOR
(Wye regret that many of the lettern we publish have had
to be eut docem. Correspondents who destire to ore their



To the Editor, Gold Coast Leader.
Dear Mr. Editor :-Kindly allow me a ppace in cause of the estly elosing of the Otsir conveation which the Ansmaboe correspondence sttempts to hide ont thinking that the pabtic could judge otherWise hy the portion of the corroepondest which rung of the majority, howeser had s tendency to compli cate matters bus those present ater much consid. eration arrived at 6 resolution. Those prosent betng the King of Anams boe and indeed complicated in the absence of the majerity and arrived at no resolution thougs the correapun dent alluded to orie in his lagt parigraph-
The Ayeldu chiet unforturately for the corres pondent fet out the nameat of the King of Anamas pondent iet ous the names of the King of Anawsi-
boe and himelf as the inventors of the Otsir convention, at Coromantine and rasde masters mors kuapicious that King Otilibu's nessengers were wait
ing for him at A yeldu to hoar the glad tidings which is tiee reaotution of the Borbor Kiago against the King of Abura on their behalf ko. his glaiurs of the Azsin innd, honoe it was a disappointrant to them
in consequence of the pou-attendance of the Borbor in conseguence of the pou-attendan
Kingz, yet they shan meet anain.
Both the oorrospondent and then were oansing to they had that the D. C. at Salt Yond had been or dered to matire thate at once the actuat cruse tho hurried up the cloaing of the convention. If the carraypondent still imaist that some rexolution was arrived at, iereumatances will prove suct resolution
to have been made between the beels und the toes of the King and chief and it anded in vazarios of aounde rocketing over the topx of gigantic sbading tresi whieh the sorrespondent artisticaily described ns Otiir mand as mucih as to ay yuch reeplation can
ot be recosded in the velume of their leaven in
 the eants of four Indepeadeat and Senior Kinga
were wapnit. Were vanit.
The corres
The correxpondant will beriefit the public if be
would contradiat Ayeldal chiefa statement by mentioning the very name of the King to whom th Borbor King4 previously gave their consent sad approval to the meeting and its object as appeare in his hast paragraph. Fit
Now let wat turn to the Sait Pond correspondent Who semat to bolieve in the promises made by the
 promotead hase in repingeed with iron, otherwise he in wrong to hononr the ebief yith title of a king amd
 ted the attendxnco of the Borbor Kings as they
conceded the idea that the meeting was intended or Borbor chiefe ind not kings, the suthority cannot hesip. styling tha Kingy on thiso Cosst anty chiefo sub-chiofan an kinge aub-chiefiz *a Kinge
The Saperior
condidorapto to retuas the invitation under the pleat that it in oot an macient cuatom that the King o? Anatuan boe convenes menting aud invites him, thinre
fora if chief Ordoci of lappeseduadzi heary of the Yoro if chiaf ordom of mppeseduadzi hears of the
movement of the King of Abura to the Otsir convention he may let bim know, that he may go
nd sit mear him. and sith nesar him.
Thanking you axceedingly for this waste of your
Xourn truly,--Orstr Onx
Ohnir, 23/22/02.
Dear Sir:- In your igsue of the 13 th December
2atit find Mr. Chatapion writiag in reply to lazt I find Mr. Chatrpise witiag in reply to my
letter of the Ithe November leat. I mast gay Mr.
 silly to run my Country dowa if alf what I anid wat
uatrue. 3 May 1 personnily and on behalf of the parennes be satiotited that the prement condition of the Day schboot is matixfinotory? I repent again thant the pretwat condition of that Dixeove Singing
Band, and pitiful. Mr. Chanypion myy be quite a stranger
otherwiut in oinparing the condition of the pust
Siaging Band, Swnday and Day Soboots, erpeoitily


point one man whose business would be to go and gee how their work itegoing on on ithough they oredit Mr. Chazapion with that point vix: - "Ne Boyta and Godecke have distributed prizes and have recently ordered sonee more hesutiful bookn
to dietribute among its scholare", on which ho ataids to dituribate among its scholars" on which ha atards
to think tbat the Day Sehool is is a proper state. What mast I pat down for the Singing Bxad nad

Dec. \(1902 . \quad 1 \mathrm{am}\), in readivess \begin{tabular}{l} 
3. P. Mensah. \\
\hline
\end{tabular}

Dear Mr. Editor:-May I understand that the Gold Coast Aborigineg'- that addoizablo orram which boddy
causo to the rescete s short while agg, has been allowed
 Proprietors- The Aboripines Righta Protection Socity
of thest towe, and that tup to be pe present day the Editor spd bis tat hhvo not reverived their wages for their tor
vices This, in all conzciuce is
 the homourable and inficretial nembert. Thit imnorts! Archimedes one ssid, "Cive mo whereon to ptaso my
 that lack aufficiency, onergy, love asd purpose, s purposese

 fuantiel or influential the membera thereof. is worthy of 4 name. "A glowing and hight wounding name there may
be, but "what's in \(x\) name
?


 Foither siezt to to live or to work boartily and tomonstly for the country, the race, mnd God. This chatt of spurious
patrictirm trant be blown sway. We have tos many imf

 well being of tho cosintry. Ignorayee, raore tham xnymembers be given to naderstand the setual state of
 gite to
thinge reversal of the present iniquitows state of thrings.
Miny tharikg for the space siliowed.
Yours struly,


AXIM MPROVEMENT.
Duar Editor:- Permit me 5 short space int vour valna-
blo columns for the insertion of try obsereation on Axim improvensents.
Goisg alovg

Notably among the wo may thmos, which zere me this
impreme is , my being nathered into a rather naety
fitted Store




 Taking many thingo into ennsideration, it wowld mnot
reasonably appear to even tho most




 to the compunity st large.
If theretore, thera is a do
simple tumat at the eorner wing bring yon at resdilis what dit.
 emarting under. Then aino is thg fact thing the mannage







 advertite the diferent kinds At frages in fiststora, -

 ent devertionmens to all. "Comen and noe End oo | Thanking you for the space nollowend.
Axjm, Nov, 1902.
Satinted soad theand Cafice of the Goun Coant Lkisima

Figure B38: Processed Evaluation Image 19 - The Gold Coast Leader

\section*{Appendix C}

This appendix contains the three MATLAB \({ }^{\circledR}\) code files and the R code file. The same of files and folders have been changed in the code extracts in order to keep the code clean and unpersonalised.

\section*{C. 1 MATLAB \({ }^{\circledR}\) code files}

Please note that the code in these files has been simplified slightly for ease of reading. The code files available on the CD includs additional code for running multiple batches of data.
```

%Read in the MSERs to be classified
dataFile = 'MSERs.xlsx';
dataMatrix = readtable(dataFile);
%classify the
yfit = trainedClassifier.predictFcn(dataMatrix);
classes = cell2mat(yfit);
% make the output file
mkdir('Path', 'Folder');
dataFileName = strcat(directoryPath,runDirectory,'\answers.txt');
fid = fopen(dataFileName,'w');
fprintf(fid,'%c\r\n',classes);
fclose(fid);

```

Figure C1.1: Code Extract - GenerateMSERs.m
```

dir_newspaper = 'ImagesDirectory';
%read in the image list
files_newspapers = dir(strcat(dir_newspaper,'\*.tif'));
%loop through images:
% - save MSER configuration
% - save image
%make run directory
formatOut = 'mm dd yy HH MM';
DateString = da\overline{test̄r(\overline{datētime('now'),formatOut);}}\mathbf{\prime}\mathrm{ (')}
mkdir(dir_mser_runs, DateString);
dir_currentRun = strcat(dir_mser_runs,DateString);
%make run details file
filePath = strcat(dir_currentRun,'\Run_Details.txt');
fid = fopen(filePath,'w');
fclose(fid);
%print out regions for each image
for file = files_newspapers' %files_as' CHANGE T to N
%make a folder for the current image being processed:
[~,imageName,~] = fileparts(file.name);
mkdir(dir_currentRun, imageName);
imagesDirectory = strcat(dir_currentRun,'\',imageName,'\');
%generate the MSERs
colorImage = imread(strcat(dir_newspaper,'\',file.name));
bAndWImage = im2bw(colorImage);
swoppedImg = bAndWImage < 1;
props =
regionprops(swoppedImg,'Area','Image','MajorAxisLength',...
'MinorAxisLength','Orientation','PixelList');
pixlist = {};
for i = 1:numel(props)
pixlist = [pixlist; int32(props(i).PixelList)];
end;
mserRegions = MSERRegions(pixlist);
a = mserRegions(1).Axes;
CC = bwconncomp(swoppedImg);
s = regionprops(CC,'basic');
[features,validPoints] =
extractFeatures(bAndWImage,mserRegions);
%save the main image with all of the MSERs on it
fig = figure;
imshow(swoppedImg)
hold on

```
```

plot(mserRegions, 'showPixelList', true,'showEllipses',false)
title('MSER regions')
hold off

```
```

imagefilename = strcat(imageName,'.png');

```
imagefilename = strcat(imageName,'.png');
saveas(fig,strcat(imagesDirectory,imagefilename));
saveas(fig,strcat(imagesDirectory,imagefilename));
close(fig);
close(fig);
%save the main image with all of the ellipses on it
%save the main image with all of the ellipses on it
fig = figure;
fig = figure;
imshow(swoppedImg)
imshow(swoppedImg)
hold on
hold on
plot(mserRegions, 'showPixelList', false,'showEllipses', true)
plot(mserRegions, 'showPixelList', false,'showEllipses', true)
title('MSER regions with ellipses')
title('MSER regions with ellipses')
hold off
```

hold off

```
imagefilename \(=\) strcat(imageName,' ellipses','.png');
saveas (fig, strcat (imagesDirectory, ímagefilename));
close(fig);
\%save MSER feature file
dataFileName = strcat(imagesDirectory,'data.csv');
fid \(=\) fopen (dataFileName, 'w');
fprintf(fid, [ 'RegionNumber' ',' 'Major_Axes' ',' 'Minor_Axes'
    ', '...
    'Orientation' ',' 'PixelCount' ',''Class' '\r\n']);
fclose(fid);
\%save individual region images and thier data to the file
mkdir(imagesDirectory,'Individual_Regions');
dir indi regions =
    strcat (imagesDirectory,'Individual_Regions\');
for j \(=1: l e n g t h(m s e r R e g i o n s)\)
    \%show msers
    fig = figure;
    imshow (swoppedImg) ;
    hold on
    plot (mserRegions(j, 1), 'showPixelList',
    true,'showEllipses', false);
    hold off
    imagefilename = strcat(num2str(j),'.png');
    saveas (fig, strcat(dir indi regions,imagefilename));
    close(fig);
    fid = fopen(dataFileName,'a');
    axes \(=\) mserRegions (j).Axes;
    major axes \(=\) num2str (axes \((1,1))\);
    minor_axes \(=\) num2str (axes \((1,2))\);
    orientation \(=\) num2str (mserRegions (j, 1). Orientation);
    numberOfPixels \(=\)
    num2str(length(mserRegions(j,1).PixelList));
    fprintf(fid, ' \(\% s, \% s, \% s, \% s, \% s, \% s \backslash r \backslash n^{\prime}, \ldots\)
                            num2str(j), major_axes, minor_axes, orientation,...
                    numberOfPixels, \({ }^{\prime} N^{-}\)) ;
```

        fclose(fid);
    end;%for j = 1:length(mserRegions)
    end;

```

\section*{C1.2: Code Extract - ClassifyMSERs.m}
```

files_newspapers = dir(strcat(DirectoryOfImages,'\*.tif'));

```
files_newspapers = dir(strcat(DirectoryOfImages,'\*.tif'));
directory = 'ClassifierOutput';
directory = 'ClassifierOutput';
classifiedMSERsdataFile = strcat(directory,'\MSERs.xlsx');
classifiedMSERsdataFile = strcat(directory,'\MSERs.xlsx');
lines = readtable(classifiedMSERsdataFile);
lines = readtable(classifiedMSERsdataFile);
lines.ImageNumber = categorical(lines.Image);
lines.ImageNumber = categorical(lines.Image);
%%% read in images and get regions
%%% read in images and get regions
for file = files_newspapers'
for file = files_newspapers'
    %make a folder for the current image being processed:
    %make a folder for the current image being processed:
    [~,imageName,~] = fileparts(file.name);
    [~,imageName,~] = fileparts(file.name);
    %lines holds a table of all classified MSERs
    %lines holds a table of all classified MSERs
    imagesLines = lines(lines.ImageNumber == imageName,:);
    imagesLines = lines(lines.ImageNumber == imageName,:);
    % remove N (noise) elements from the image
    % remove N (noise) elements from the image
    imagesLines.Class = categorical(imagesLines.Class);
    imagesLines.Class = categorical(imagesLines.Class);
    %save the character lines
    %save the character lines
    rowsToKeep = imagesLines(imagesLines.Class~='N',:);
    rowsToKeep = imagesLines(imagesLines.Class~='N',:);
    %select regions that are to remain in the image
    %select regions that are to remain in the image
    regionIds = rowsToKeep.RegionNumber;
    regionIds = rowsToKeep.RegionNumber;
    %generate the MSERs
    %generate the MSERs
    colorImage = imread(strcat(dir_newspaper,'\',file.name));
    colorImage = imread(strcat(dir_newspaper,'\',file.name));
    %do mser on image (white text on black background)
    %do mser on image (white text on black background)
    bAndWImage = im2bw(colorImage);
    bAndWImage = im2bw(colorImage);
    swoppedImg = bAndWImage < 1;
    swoppedImg = bAndWImage < 1;
    props = regionprops(swoppedImg,'PixelList');
    props = regionprops(swoppedImg,'PixelList');
    pixlist = {};
    pixlist = {};
    for i = 1:numel(props)
    for i = 1:numel(props)
        pixlist = [pixlist; int32(props(i).PixelList)];
        pixlist = [pixlist; int32(props(i).PixelList)];
    end;
    end;
    mserRegions = MSERRegions(pixlist);
    mserRegions = MSERRegions(pixlist);
    %remove regions to keep
    %remove regions to keep
    mserRegions(regionIds,:) = [];
    mserRegions(regionIds,:) = [];
    % display remaining regions
    % display remaining regions
    for i = 1:size(mserRegions, 1)
    for i = 1:size(mserRegions, 1)
        pixels = mserRegions(i,1).PixelList;
        pixels = mserRegions(i,1).PixelList;
                for j = 1:size(pixels,1)
                for j = 1:size(pixels,1)
                    y = pixels(j,1);
                    y = pixels(j,1);
                    x = pixels(j,2);
                    x = pixels(j,2);
                        bAndWImage(x,y) = 1;
                        bAndWImage(x,y) = 1;
                end;
                end;
    end;
    end;
    figure;
    figure;
    imshow (bAndWImage)
    imshow (bAndWImage)
    filename = strcat(directory,'\',imageName,'.tif');
    filename = strcat(directory,'\',imageName,'.tif');
    imwrite(bAndWImage,filename);
    imwrite(bAndWImage,filename);
end;
```

end;

```

Figure C1.3: Code Extract - ProcessNewlmages_RemoveNoiseElements.m

\section*{C. 2 R code file}
```

\#install.packages("readr") \#only reuired once on your system
\#install.packages("Rcpp")
\#install.packages("stringdist-package")
library(readr)
library(stringdist)
imageNumber <- 19

# READ IN CORRECT TEST FILE

correctedFileName = paste('C:<br>
OCR output<br>TestOCR<br>',imageNumber,'.txt',sep="")
print(correctedFileName)
correctfile <- read_file(correctedFileName)
correctfile <- tolower(correctfile)
correctfile <- gsub('\r\n\r\n', ' ', correctfile,
ignore.case = FALSE, perl = FALSE, fixed = FALSE, useBytes =
FALSE)
correctfile <- gsub('\r\n', ' ', correctfile, ignore.case =
FALSE, perl = FALSE, fixed = FALSE, useBytes = FALSE)
correctfile <- gsub("[[:punct:]]", '', correctfile,
ignore.case = FALSE, perl = FALSE, fixed = FALSE, useBytes =
FALSE)
correctfile <- gsub(" +", ' ', correctfile, ignore.case =
FALSE, perl = FALSE, fixed = FALSE, useBytes = FALSE)
print(correctfile)

```
```


# READ IN ORIGINAL FILE

originalFileName = paste('C:
<br>Original_OCR<br>',imageNumber,'.txt',sep="")
print(originalFileName)
originalfile <- read_file(originalFileName)
originalfile <- tolower(originalfile)
originalfile <- gsub('\r\n\r\n', ' ', originalfile,
ignore.case = FALSE, perl = FALSE, fixed = FALSE, useBytes =
FALSE)
originalfile <- gsub('\r\n', ' ', originalfile, ignore.case
= FALSE, perl = FALSE, fixed = FALSE, useBytes = FALSE)
originalfile <- gsub("[[:punct:]]", '', originalfile,
ignore.case = FALSE, perl = FALSE, fixed = FALSE, useBytes =
FALSE)
originalfile <- gsub(" +", ' ', originalfile, ignore.case =
FALSE, perl = FALSE, fixed = FALSE, useBytes = FALSE)
print(originalfile)

# READ IN FIXED FILE

fixedFileName = paste('C:<br>
OCR<br>',imageNumber,'.txt',sep="")
print(fixedFileName)
fixedfile <- read_file(fixedFileName)
fixedfile <- tolower(fixedfile)
fixedfile <- gsub('\r\n\r\n', ' ', fixedfile, ignore.case =
FALSE, perl = FALSE, fixed = FALSE, useBytes = FALSE)
fixedfile <- gsub('\r\n', ' ', fixedfile, ignore.case =
FALSE, perl = FALSE, fixed = FALSE, useBytes = FALSE)
fixedfile <- gsub("[[:punct:]]", '', fixedfile, ignore.case
= FALSE, perl = FALSE, fixed = FALSE, useBytes = FALSE)
fixedfile <- gsub(" +", ' ', fixedfile, ignore.case =
FALSE, perl = FALSE, fixed = FALSE, useBytes = FALSE)
print(fixedfile)

```
```


# check leveshtein distances

stringdist(correctfile, originalfile, method = c("lv"))
stringdist(correctfile, fixedfile, method = c("lv"))

```

Figure C2.1: Code Extract - Compare_OCR.R

\section*{Appendix D}

This appendix contains tables which show the values across the MSER data tables generated for each image as well as the training files used, per feature.

Table D1: Basic statistics of the Major Axes feature across all images and training files
\begin{tabular}{|l|r|r|r|r|}
\hline \begin{tabular}{c} 
Image(s) \\
Dataset
\end{tabular} & Varience & \multicolumn{1}{c|}{\begin{tabular}{c} 
Standard \\
Deviation
\end{tabular}} & \multicolumn{1}{c|}{ Mean } & \multicolumn{1}{c|}{ Median } \\
\hline 1 & 1886,92 & 43,44 & 24,62 & 23,00 \\
\hline 2 & 15484,40 & 124,44 & 28,24 & 14,36 \\
\hline 3 & 7049,32 & 83,96 & 23,58 & 9,00 \\
\hline 4 & 1412,94 & 37,59 & 16,21 & 5,94 \\
\hline 5 & 1564,44 & 39,55 & 9,36 & 4,35 \\
\hline 6 & 4508,32 & 67,14 & 29,00 & 10,48 \\
\hline 7 & 3504,27 & 59,20 & 15,02 & 4,61 \\
\hline 8 & 14160,75 & 119,00 & 19,34 & 6,28 \\
\hline 9 & 5561,26 & 74,57 & 24,26 & 26,45 \\
\hline 10 & 8093,51 & 89,96 & 20,29 & 4,91 \\
\hline 11 & 6578,66 & 81,11 & 21,62 & 11,66 \\
\hline 12 & 6111,93 & 78,18 & 21,27 & 6,72 \\
\hline 13 & 205,08 & 14,32 & 21,28 & 23,39 \\
\hline 14 & 2135,43 & 46,21 & 29,53 & 30,66 \\
\hline 15 & 4560,15 & 67,53 & 27,27 & 25,83 \\
\hline 16 & 8932,82 & 94,51 & 26,50 & 24,90 \\
\hline 17 & 9811,44 & 99,05 & 29,90 & 31,03 \\
\hline 18 & 11157,59 & 105,63 & 29,94 & 32,72 \\
\hline 19 & 11433,19 & 106,93 & 28,63 & 29,01 \\
\hline \(1,2,4,6\) & 4711,74 & 68,64 & 22,87 & 9,57 \\
\hline \(2,4,6\) & 5543,19 & 74,45 & 22,35 & 7,83 \\
\hline \(7,11,12\) & 5587,25 & 74,75 & 19,70 & 6,77 \\
\hline
\end{tabular}

Table D2: Basic statistics of the Minor Axes feature across all images and training files
\begin{tabular}{|l|r|r|r|r|}
\hline \begin{tabular}{l} 
Image(s) \\
Dataset
\end{tabular} & Varience & \multicolumn{2}{l|}{\begin{tabular}{l} 
Standard \\
Deviation
\end{tabular}} & Mean \\
\hline 1 & 164,44 & 12,82 & 10,69 & 7,53 \\
\hline 2 & 152,09 & 12,33 & 14,09 & 8,70 \\
\hline 3 & 317,47 & 17,82 & 12,48 & 5,73 \\
\hline 4 & 131,79 & 11,48 & 8,36 & 3,69 \\
\hline 5 & 127,90 & 11,31 & 4,65 & 2,86 \\
\hline 6 & 314,89 & 17,75 & 12,90 & 5,03 \\
\hline 7 & 159,99 & 12,65 & 7,49 & 3,01 \\
\hline 8 & 572,32 & 23,92 & 9,11 & 3,88 \\
\hline 9 & 164,84 & 12,84 & 11,65 & 7,38 \\
\hline 10 & 225,44 & 15,01 & 10,12 & 3,22 \\
\hline 11 & 491,63 & 22,17 & 9,99 & 6,22 \\
\hline 12 & 137,55 & 11,73 & 10,14 & 4,16 \\
\hline 13 & 38,43 & 6,20 & 8,96 & 7,48 \\
\hline 14 & 141,46 & 11,89 & 17,40 & 18,65 \\
\hline 15 & 174,98 & 13,23 & 14,95 & 9,57 \\
\hline 16 & 124,49 & 11,16 & 10,89 & 7,85 \\
\hline 17 & 132,44 & 11,51 & 16,39 & 15,63 \\
\hline 18 & 160,55 & 12,67 & 16,72 & 15,45 \\
\hline 19 & 133,07 & 11,54 & 15,77 & 14,93 \\
\hline \(1,2,4,6\) & 184,86 & 13,60 & 10,84 & 5,46 \\
\hline \(2,4,6\) & 190,87 & 13,82 & 10,88 & 4,45 \\
\hline \(7,11,12\) & 282,87 & 16,82 & 9,35 & 4,16 \\
\hline
\end{tabular}

Table D3: Basic statistics of the Pixel Count feature across all images and training files
\begin{tabular}{|l|r|r|r|r|}
\hline \begin{tabular}{l} 
Image(s) \\
Dataset
\end{tabular} & \multicolumn{1}{l|}{\begin{tabular}{l} 
Varience \\
Deviation
\end{tabular}} & Mean & Median \\
\hline 1 & 2305874,33 & 1518,51 & 207,63 & 109 \\
\hline 2 & 1188956,24 & 1090,39 & 339,20 & 78 \\
\hline 3 & 3084199,28 & 1756,19 & 351,75 & 36 \\
\hline 4 & 1118945,96 & 1057,80 & 190,34 & 13 \\
\hline 5 & 764254,76 & 874,22 & 82,57 & 6 \\
\hline 6 & 2139882,53 & 1462,83 & 384,99 & 44 \\
\hline 7 & 567537,94 & 753,35 & 168,40 & 7 \\
\hline 8 & 340152344,74 & 18443,22 & 373,54 & 15 \\
\hline 9 & 3270906,03 & 1808,56 & 189,60 & 115 \\
\hline 10 & 450329,45 & 671,07 & 218,57 & 8 \\
\hline 11 & 65615246,77 & 8100,32 & 229,81 & 43 \\
\hline 12 & 393879,56 & 627,60 & 189,62 & 18 \\
\hline 13 & 10237,11 & 101,18 & 122,03 & 114 \\
\hline 14 & 212330,97 & 460,79 & 375,82 & 382 \\
\hline 15 & 432421,91 & 657,59 & 310,93 & 149 \\
\hline 16 & 1028469,41 & 1014,13 & 202,17 & 123 \\
\hline 17 & 477728,63 & 691,18 & 310,16 & 318 \\
\hline 18 & 578165,23 & 760,37 & 337,45 & 348 \\
\hline 19 & 5825836,18 & 2413,68 & 348,39 & 303 \\
\hline \(1,2,4,6\) & 1613826,72 & 1270,36 & 260,26 & 37 \\
\hline \(2,4,6\) & 1408784,72 & 1186,92 & 275,77 & 23 \\
\hline \(7,11,12\) & 25835279,65 & 5082,84 & 199,45 & 18 \\
\hline
\end{tabular}

Table D4: Basic statistics of the Orientation feature across all images and training files
\begin{tabular}{|l|r|l|r|r|}
\hline \begin{tabular}{l} 
Image(s) \\
Dataset
\end{tabular} & Varience & \begin{tabular}{l} 
Standard \\
Deviation
\end{tabular} & Mean & \\
\hline 1 & 1,27 & 1,13 & \(-0,32\) & \(-0,65\) \\
\hline 2 & 1,21 & 1,10 & \(-0,11\) & 0,00 \\
\hline 3 & 0,93 & 0,97 & \(-0,02\) & 0,00 \\
\hline 4 & 0,72 & 0,85 & 0,04 & 0,00 \\
\hline 5 & 0,63 & 0,79 & 0,17 & 0,00 \\
\hline 6 & 0,73 & 0,85 & \(-0,07\) & 0,00 \\
\hline 7 & 0,86 & 0,93 & 0,10 & 0,00 \\
\hline 8 & 1,20 & 1,10 & 0,01 & 0,00 \\
\hline 9 & 1,33 & 1,15 & \(-0,27\) & \(-0,55\) \\
\hline 10 & 0,97 & 0,98 & 0,10 & 0,00 \\
\hline 11 & 1,27 & 1,12 & \(-0,23\) & \(-0,18\) \\
\hline 12 & 1,20 & 1,10 & \(-0,01\) & 0,00 \\
\hline 13 & 1,38 & 1,17 & \(-0,33\) & \(-0,79\) \\
\hline 14 & 1,07 & 1,03 & \(-0,15\) & \(-0,03\) \\
\hline 15 & 1,10 & 1,05 & \(-0,12\) & 0,00 \\
\hline 16 & 1,29 & 1,13 & \(-0,34\) & \(-0,75\) \\
\hline 17 & 1,27 & 1,13 & \(-0,18\) & \(-0,11\) \\
\hline 18 & 1,22 & 1,09 & \(-0,17\) & \(-0,05\) \\
\hline 19 & 0,96 & 0,84 & 0,05 & \(-0,06\) \\
\hline \(1,2,4,6\) & 1,15 & 0,92 & \(-0,09\) & 0,00 \\
\hline \(2,4,6\) & 1,07 & \(-0,02\) & 0,00 \\
\hline \(7,11,12\) & & \(-0,07\) & 0,00 \\
\hline
\end{tabular}

\section*{Appendix E}

\footnotetext{
lit-anon Qhuulti he addressed to the Editor. Businees Communications and remit tam-es either in Cheques or Post Office Orders should be sent to the Manager, "Gold Coast Leader" Office, Saltpond Road, Cape Coast. West Africa. 1301- copies of the o please apply \(v\) " E. ARTHUR, , tin Street. Messrs. McLal'egBi-os. and Company . - at \lar chutel 1nd the Gold 00\%|? prepared tt It thtxr "111 an I completef ed Rooms (no Itrn stx|t| 1t their Houses Sekondi, - take our tl Mr. Bernard Hicks 79 Markl mo Ion hm h 1\% th 1 mm to inform Clltntk on the Cnst \(t\) tt ht his bttn able to makt II'I' ngtn t 1 ts \uth Muxn Mathews Wrightqon \& Co. of 3'2 (m it St Ht ens lon on LC of ackno \' ( gel st tn In , 1 I . I' mu III rt put them to ) Ismt 5 cu fit 1 on 1y hi it for (some years pt t This Firm having a much I 1rgor Cap'ttl, m I a very eflicient at fit of txsiatmts ava I ) e for the working of their buemens Cuqtomers will undoubtedly reap greater tlx mtagm tl m L has hltherto been ah e to nth-r especit y H regards the pron pt e\} ipments of (\})011 As the new buemus w nu 1 un un tr \(11 \%\) management any in lent \(C, u\) ts may ht \(p\) Isul to fax out tht Firm m u l cit-totem: noun: 1 ' L 04 o J. ' 1 e u I tits of t 9 Market p ce 'ml \t ntv r r 1).: m lew (f tlt Vtttorn I'tr I h n )t m 0 rs fertetlm T ( 1 y ht 0 ma qu 1 m sums "hit: u" lung p't, Inmc (mnm n te e Itxem, Il nu ftr tht purc tse tf _ir<unl mm in \(\mathrm{I}^{\prime}\) ( for but ling Tre WT-I a It It t c -C mmwn mt He on tlt Hg t of t e It h ult "hie! fro: 1 \{pp Hut, ta 1 - off \(n \mathrm{~L}\) "'0 rtgrt-t to rtpmtt e 10 t\(\}\) of I PI. Orle. 1 H Whlth to kp ICC it he: on the \(51 \%\) ut A ('urrPngmlw writing from 01 mm \} rep: rtq 1 qermus cm flagrmun tl ere H at entm el he tvy losses besxdes lafing lt'bt ate man) but dings \x ) tltr c rr pondtnt \trtm frtm Rollo: wl ift-remark" g (it an untu ie(pr 9 (f tt filth] ligtrge Md Hte Ct xptm ) tndtw th' 1 tc titre pltns bttery )et tit .t "alumnus, L )wr qr vn state fe
}

Figure E1: OCR Text extracted from image 1 from 1st Gold Coast paper test run
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A weekly journal devoted to the interest and
welfare of the Country and Race. Man womb "mm" h, .n This behool emu u in
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Beaker- to the Governmenle of the Colonies of the Gambia, Sierra Leone. the Gold Coo» and Nigeria. to the Imperial Governmene in Slem Leone. HEAD OFFICE: 17 \& m. Leadwfinll 8:. London a. c. Telegraphic 4.. Gable nddreeez-"Arreglo" London. m'ERW. WL 02:102- H.('utle Street. ' magnum; . n . museum omen: None 1. ' Q Telegraphic \& Cable Wreck-"Bullion". Hamburg NEW YORK AGERCY 4 Wellsl-reet. New York U.S.A.

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C. 11 Emu. D.L..J.P Gnome Emu. E80. vcrpofil'

Figure E2: OCR Text extracted from image 1 from 1st Gold Coast paper test run```

