In this Issue

The Recipient in the Book of Iyar Al-Ashi’r

British Administration in Trans-Jordan Before Prince Abdullah Ruled During: August 1920 - March 1921

Criteria of Women Classifications in Western Islamic Regions in the Middle Ages

Critical Approaches to Tidings and Narrations of the Individuals by Hadith Narrators

Epenthesis and Deletion of Arabic Sonorant Consonants
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Patterns of Performance of Non-Western Participants on Benton Visual Retention Test

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Abstract

The purpose of the present investigation was to study the patterns of the performance on Benton Visual Retention Test (BVRT) of two samples; n = 781, age range 7-55 years, and n = 136, age range 7-56 years of male and female Middle Eastern participants. Two studies were reported. In both studies performance on BVRT correlated with both age and IQ, and female performance was better than males’ performance. Difference in Educational level was suggested as a possible causative factor. The performance in study 1 of those participants who were in the age range 15 to 44 years and of average intelligence was less than what would be expected according to the test norms. The participants in study 2 who were in an equivalent IQ/age category performed within the test’s norms. The scores of the participants under administrations A and D correlated positively. There were no significant differences in the scores obtained under the two administrations. Further studies were suggested.
أداء أفراد غير غربيين على اختبار بنترن للحفاظ البصري

د. طه أمير
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جامعة الإمارات العربية المتحدة

ملخص

هدف هذا البحث إلى إجراء دراستين لاستقصاء أئتمات الأداء على اختبار بنترن للحفاظ البصري لعينتين من الشرق الأوسط. أولى العينتين تتكون من 781 فردًا من الذكور والإناث في مدي العمر 7 إلى 55 عامًا، والأخرى تتكون من 136 فردًا من الذكور والإناث في مدي العمر 7 إلى 56 عامًا. وجد في كلا الدراستين ارتباط بين الأداء في الاختبار وكلي من العمر والذكاء، وكان أداء الإناث أفضل من أداء الذكور. وقد عزى ذلك إلى اختلاف في مستوى التعليم.

كما أن أداء أفراد العينة الأولى من ذوي الذكاء المتوسط وفي مدي العمر 15 - 44 عامًا أقل مما هو متوقع بناءً على معايير الاختيار في حين كان أداء الأفراد في العينة الثانية من كانوا في فئة منظورة من حيث السن والذكاء متسقاً مع ما هو متوقع بناءً على معايير الاختيار.

وجد ارتباط إيجابي بين أداء المفحوصين في التطبيقين (أ) و (د)... كما لم يكن هناك اختلاف دال إحصائيًا في الأداء على التطبيقين.

تمت الإشارة إلى أن هناك حاجة لدراسات أخرى لمحاولة الإجابة على الأسئلة التي أثارها نتائج البحث الحالي.
Patterns of Performance of Non-Western Participants on Benton Visual Retention Test

Like psychologists in the western world where neuropsychological assessment tools were devised and standardized, psychologists working with clients in African, Asian, or other non-western countries frequently use these tools to assess their clients. Those psychologists, who often are trained in the western tradition, are frequently seriously concerned about the validity of the use of these tests with their non-western clients. Sometimes ‘normal’ testees – according to information obtained from other sources – obtain so low scores that indicate they are subnormal in one way or another. Also administering neuropsychological and cognitive tests to large groups of presumably ‘normal’ participants for the purpose of obtaining ‘control group’ scores often renders mean scores that are significantly lower than the scores expected for a ‘normal’ group of testees according to the test's norms. The same situation frequently arises when the testee or testees belong to migrant or refugee minorities living in the west.

This phenomenon has theoretical and practical implications. The psychologists who find themselves in this situation usually ask: why should a perfectly ‘normal’ person or a group of persons fare so badly when responding to a test that is supposed to assess a function or a trait that is supposed to be universal? They also ask: what should we do to be able to assess our clients objectively?

The first step in the attempt to answer these and similar questions must be to identify the specific response patterns of non-western groups to some of the most important neuropsychological tests.
This can be possible if psychologists working with non-western populations were to contribute to a database of scores obtained from the administration of these tests to the non-western populations in question.

Prominent in this class of tests is the Revised Benton Visual Retention Test (BVRT) which is part of the World Health Organization neuropsychological core test battery. It is one of the most popular and potentially useful neuropsychological tests (Benton, 1974; Sivan, 1992). It assesses visuoperceptual-visuographic functions and is used in diagnosing brain damage. It has three alternate forms C, D, and E. Each of which consists of 10 designs of geometrical figures. Two additional multiple choice forms, F and G are only available in the German edition (Sivan and Spreen, 1996). Four different administrations A, B, C and D are also available. Administrations A and B require immediate reproduction from memory after 10 or 5 seconds of exposure respectively. Administration C involves direct copying. Administration D requires reproduction from memory after 10 seconds exposure and 15 second delay. Two scoring systems can be used: number of correct reproductions and number of errors. The number of correct designs has a minimum of 0 and a maximum of 10. It is scored on all-or-none basis. The number of errors scoring system notes six types of errors and provides quantative as well as qualitative analysis of performance.

Few studies reported the performance of non-western populations on BVRT. Among these is a study by Kunkle and Asbury (1986). In this study 12 to 13 year old black adolescents scored lower than expected on BVRT according to the test's norms, and females performed significantly better than males.
Nell (2000) reported a meta analysis of scores on BVRT which were reported in 19 studies in 12 countries on 4 continents. The analysis showed that the mean number correct designs for six European samples on the Benton Visual Retention Test was 8.9 with a mean standard deviation of 1.1. This mean was two standard deviations higher than the mean for the Asian samples, and three standard deviations higher than the mean for South American and South African samples. Nell noted that sample sizes reported for some of these studies were often very small and that some results arouse suspicion. It is worth noting that none of those studies was made in the Middle East.

The purpose of the present two studies is to investigate the basic aspects of the performance of two large samples from Middle Eastern population on Benton Visual Retention Test (BVRT).

**Study 1**

**Method**

**Participants**

Participants were 781 volunteer males and females drawn from various educational institutions and workplaces in Kuwait and United Arab Emirates (UAE). They have no history of cerebral injury or organic disease. Their age ranged between 7 and 55 years (mean = 19.60, SD = 9.00). Females were 489 (mean age = 19.06, SD = 8.25) and males were 292 (mean age 20.5, SD =10.01).
Material and Procedure
Form C and administration A of Benton Visual Retention Test were used to assess the participants’ visuographic-visuoperceptual functions. Administration A requires that participants draw 10 designs from memory following 10-second study period. Reproductions can be scored using two methods. The first system is the number correct designs which is a measure of general efficiency and is judged on an all-or none basis. A testee might have a score anywhere between 10 and 0. The second scoring system is the number of errors. Any less than perfect performance in any design can involve one or more specific errors. It is thought that this second system is a more sensitive measure of visuographic-visuoperceptual function.

Results
According to the test manual (Benton 1974), number correct designs reproduced and the number of errors made by the participants correlate positively and negatively respectively with chronological age.

Table 1
The mean number correct under administration A of BVRT by age (n = 781)

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>23</td>
<td>3.22</td>
<td>1.91</td>
</tr>
<tr>
<td>8</td>
<td>28</td>
<td>5.18</td>
<td>2.40</td>
</tr>
<tr>
<td>9</td>
<td>31</td>
<td>5.32</td>
<td>2.10</td>
</tr>
<tr>
<td>10</td>
<td>29</td>
<td>5.97</td>
<td>1.84</td>
</tr>
<tr>
<td>11</td>
<td>25</td>
<td>6.96</td>
<td>2.54</td>
</tr>
<tr>
<td>12</td>
<td>29</td>
<td>6.52</td>
<td>1.62</td>
</tr>
<tr>
<td>13-14</td>
<td>68</td>
<td>6.41</td>
<td>1.89</td>
</tr>
<tr>
<td>15-44</td>
<td>532</td>
<td>6.99</td>
<td>2.27</td>
</tr>
<tr>
<td>45-54</td>
<td>11</td>
<td>5.45</td>
<td>3.42</td>
</tr>
<tr>
<td>55-64</td>
<td>5</td>
<td>5.40</td>
<td>3.21</td>
</tr>
</tbody>
</table>
Table 2
Mean number of errors under administration A by age (n = 781).

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>23</td>
<td>10.5</td>
<td>4.32</td>
</tr>
<tr>
<td>8</td>
<td>28</td>
<td>6.8</td>
<td>4.27</td>
</tr>
<tr>
<td>9</td>
<td>31</td>
<td>6.1</td>
<td>3.80</td>
</tr>
<tr>
<td>10</td>
<td>29</td>
<td>5.1</td>
<td>2.74</td>
</tr>
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<td>11</td>
<td>25</td>
<td>3.7</td>
<td>3.35</td>
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<tr>
<td>12</td>
<td>29</td>
<td>3.8</td>
<td>2.00</td>
</tr>
<tr>
<td>13-14</td>
<td>68</td>
<td>4.2</td>
<td>2.58</td>
</tr>
<tr>
<td>15-39</td>
<td>513</td>
<td>3.9</td>
<td>3.99</td>
</tr>
<tr>
<td>40-54</td>
<td>30</td>
<td>5.3</td>
<td>5.52</td>
</tr>
<tr>
<td>55-59</td>
<td>5</td>
<td>5.2</td>
<td>3.56</td>
</tr>
</tbody>
</table>

TABLES 1 and 2 summarize both number correct designs and the number of errors for the participants in this study. Both tables show a trend for the number correct to increase and a trend for errors to decrease with age till middle age. Reverse trends are noticed after that age. The analysis of the data shows a significant positive correlation between number of correct designs and chronological age till age 44 yrs ($r = .125$, $p = .001$) and a significant negative correlation between the number of errors and chronological age till age 39 yrs ($r = .085$, $p = .021$).

Estimates of intellectual ability were available for 517 participants. TABLE 3 shows that the number of correct designs increased progressively
Table 3
Mean number correct under administration
A by age and IQ categories (n = 781)

<table>
<thead>
<tr>
<th></th>
<th>Age (years)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15 to 44</td>
<td>7 to 64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>n</td>
<td>M</td>
<td>SD</td>
<td>n</td>
<td>M</td>
</tr>
<tr>
<td>IQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superior</td>
<td>23</td>
<td>8.5</td>
<td>2.04</td>
<td>25</td>
<td>8.6</td>
</tr>
<tr>
<td>Above average</td>
<td>85</td>
<td>8.3</td>
<td>1.36</td>
<td>91</td>
<td>8.8</td>
</tr>
<tr>
<td>Average</td>
<td>302</td>
<td>6.4</td>
<td>2.44</td>
<td>317</td>
<td>6.4</td>
</tr>
<tr>
<td>Below average</td>
<td>37</td>
<td>5.0</td>
<td>2.22</td>
<td>67</td>
<td>5.0</td>
</tr>
<tr>
<td>Defective</td>
<td>2</td>
<td>4.0</td>
<td>2.83</td>
<td>17</td>
<td>4.0</td>
</tr>
</tbody>
</table>

with increased intelligence, while TABLE 4 shows that the number of errors.

Table 4
Mean number of errors under administration
A by age and IQ categories

<table>
<thead>
<tr>
<th></th>
<th>Age (years)</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>15 to 44</td>
<td>7 to 64</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>M</td>
<td>SD</td>
<td>N</td>
<td>M</td>
</tr>
<tr>
<td>IQ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Superior</td>
<td>23</td>
<td>1.18</td>
<td>1.47</td>
<td>25</td>
<td>1.12</td>
</tr>
<tr>
<td>Above average</td>
<td>85</td>
<td>1.87</td>
<td>1.57</td>
<td>91</td>
<td>1.94</td>
</tr>
<tr>
<td>Average</td>
<td>302</td>
<td>4.88</td>
<td>4.56</td>
<td>317</td>
<td>5.07</td>
</tr>
<tr>
<td>Below average</td>
<td>37</td>
<td>7.88</td>
<td>4.61</td>
<td>67</td>
<td>7.26</td>
</tr>
<tr>
<td>Defective</td>
<td>2</td>
<td>9.5</td>
<td>4.95</td>
<td>17</td>
<td>8.41</td>
</tr>
</tbody>
</table>

Decreased with increased intelligence. Statistical analysis revealed a significant positive correlation between the number of correct design and intelligence (r = .541, p < .01) and a significant negative correlation between the number of errors and intelligence (r = .567, p < .01).
Comparisons between male and female participants on number of correct designs and the number of errors revealed significant differences:

females reproduced significantly more correct design and made significantly less errors (TABLE 5).

### Table 5
Comparison between males’ and females’ on mean number correct and number of errors under administration A

<table>
<thead>
<tr>
<th>Gender</th>
<th>n</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>489</td>
<td>6.75</td>
<td>2.23</td>
<td>2.10</td>
<td>779</td>
<td>.036</td>
</tr>
<tr>
<td></td>
<td>292</td>
<td>6.38</td>
<td>2.53</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Males</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>489</td>
<td>4.14</td>
<td>3.59</td>
<td>2.80</td>
<td>779</td>
<td>.004</td>
</tr>
<tr>
<td></td>
<td>292</td>
<td>5.00</td>
<td>4.54</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Males</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Study 2
### Method

**Participants**

The participants were 136 volunteers drawn from educational institutions and work places in UAE. Age range was 7-56 years. Participants have no history of cerebral injury or organic disease. Females were 104 (mean age = 19.89 yrs, SD = 12.59) and males were 32 (mean age = 20.06 yrs, SD = 15.29). All participants were assigned to IQ categories on the basis of IQ tests or psychologists’ estimates.
Procedure and material

Administration A and D of BVRT were used with each participant. Administration A requires that the ten designs be exposed to participants for 10 seconds followed by immediate reproduction from memory. In administration D each of the 10 designs is exposed for 10 seconds followed by 15-seconds delay before the participant reproduces the designs from memory. One of the three alternate forms of the test was randomly selected to be used with each administration. The order in which administrations were applied was randomly selected.

The performances of the participants under administration A and D were similar with almost equal mean number correct for the two administrations. Mean number of errors under administration D was less than mean number of errors under administration A by .58 errors but the difference was not significant (TABLE 6).

<table>
<thead>
<tr>
<th></th>
<th>Administration A</th>
<th>Administration D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Correct</td>
<td>6.76</td>
<td>2.55</td>
</tr>
<tr>
<td>Errors</td>
<td>4.06</td>
<td>3.98</td>
</tr>
</tbody>
</table>

There is a significant positive correlation between number correct design in administration A and administration D ($r = .642$, $p < .01$). There was also significant positive correlation between the number of errors in both administrations ($r = .765$, $p < .01$).
As performance on BVRT is supposed to correlate with both age and intelligence (Sivan & Spreen, 1996), it would have been appropriate to break the present data into age/IQ categories in order to test for the correlation of number correct and number of errors with both age and intelligence, but in view of the size of the present data, that was not possible. However, a comparatively large number of participants was found in the age range 15-44; an age range that has particular importance for the performance on the BVRT. Typically the performance level is characterized by progressive increase from age 8 years until a plateau is reached at approximately 15 years and maintained till early forties TABLE 1 and TABLE 2 (Benton, 1974). So except for the age range 15 to 44 years IQ categories and age categories will be considered independently of each other. As TABLE 7 and 8 show, the numbers of participants in some age groups were rather small but a clear trend for number of correct designs to rise with age up till approximately the age of 14 years was apparent. This trend was reversed after the age of 40 years.

**Table 7**

Mean number correct of administration A and D by age

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N</th>
<th>Administration A</th>
<th></th>
<th>Administration D</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>2.67</td>
<td>1.50</td>
<td>4.11</td>
<td>1.96</td>
</tr>
<tr>
<td>8</td>
<td>10</td>
<td>3.80</td>
<td>1.93</td>
<td>3.90</td>
<td>1.66</td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>4.10</td>
<td>1.85</td>
<td>5.20</td>
<td>1.99</td>
</tr>
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<td>10</td>
<td>9</td>
<td>5.56</td>
<td>2.30</td>
<td>6.11</td>
<td>1.83</td>
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<td>6.00</td>
<td>1.73</td>
<td>5.67</td>
<td>2.08</td>
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<td>8.11</td>
<td>1.27</td>
<td>6.89</td>
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<td>15-44</td>
<td>75</td>
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<td>1.70</td>
<td>7.60</td>
<td>2.17</td>
</tr>
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<td>45-54</td>
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<td>7.71</td>
<td>1.50</td>
<td>8.14</td>
<td>1.57</td>
</tr>
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<td>55-64</td>
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<td>6.25</td>
<td>4.11</td>
<td>7.00</td>
<td>3.16</td>
</tr>
</tbody>
</table>
Table 8
Mean number of errors of administration A and D by age

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N</th>
<th>Administration A</th>
<th>Administration D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td>SD</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>11.89</td>
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<td>8.90</td>
<td>4.01</td>
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<tr>
<td>40-54</td>
<td>15</td>
<td>2.13</td>
<td>1.55</td>
</tr>
<tr>
<td>55-59</td>
<td>4</td>
<td>3.75</td>
<td>4.11</td>
</tr>
</tbody>
</table>

There were significant correlations under administration A between number correct and age ($r = .302, p < .01$) and the number of errors and age ($r = -.411, p < .01$). There were similar significant correlations under administration D between number correct and age ($r = .290, p < .01$) and the number of errors and age ($r = .411, p < .01$).

Table 9
Mean number correct under administration A and D by IQ categories (Age range 7 to 64 years)

<table>
<thead>
<tr>
<th>IQ</th>
<th>N</th>
<th>Administration A</th>
<th>Administration D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Above average</td>
<td>7</td>
<td>8.57</td>
<td>1.27</td>
</tr>
<tr>
<td>Average</td>
<td>94</td>
<td>8.19</td>
<td>1.52</td>
</tr>
<tr>
<td>Below average</td>
<td>23</td>
<td>5.60</td>
<td>2.44</td>
</tr>
<tr>
<td>Defective</td>
<td>12</td>
<td>4.06</td>
<td>1.95</td>
</tr>
</tbody>
</table>

Journal of Humanities and Social Sciences Vol. (17) No. (1) April 2001
Table 10
Mean number of errors under administration A and D by IQ categories
(Age range 7 to 64 years)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Administration A</th>
<th>Administration D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Above average</td>
<td>7</td>
<td>1.43</td>
<td>1.27</td>
</tr>
<tr>
<td>Average</td>
<td>94</td>
<td>1.84</td>
<td>1.61</td>
</tr>
<tr>
<td>Below average</td>
<td>23</td>
<td>5.70</td>
<td>4.17</td>
</tr>
<tr>
<td>Defective</td>
<td>12</td>
<td>8.34</td>
<td>3.83</td>
</tr>
</tbody>
</table>

TABLE 9 and 10 show a trend for number correct under administration A to increase \((r = .712, p < .01)\), and for the number of errors to decrease as intelligence increases \((r = .740, p < .01)\). Similarly, a significant positive correlation was found between intelligence and number correct under administration D \((r = .515, p < .01)\). Also a significant negative correlation between intelligence and the number of errors in the same administration was found \((r = .633, p < .01)\).

Participants in the age group 15 to 44 years \((n = 75)\) were assigned to the appropriate IQ categories. TABLE 11 shows mean number correct and the
Table 11
Mean numbers correct and errors under administration A and D
(Age range 7 to 44 years)

<table>
<thead>
<tr>
<th></th>
<th>Administration A</th>
<th>Administration D</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>IQ</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Above</td>
<td>5</td>
<td>8.20</td>
</tr>
<tr>
<td>average</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average</td>
<td>60</td>
<td>8.22</td>
</tr>
<tr>
<td>Below</td>
<td>10</td>
<td>6.30</td>
</tr>
<tr>
<td>average</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The mean number of errors of participants in each IQ category. Mean number correct and mean number of errors under administrations A and D were consistent with the published norms (Benton, 1974; Sivan, 1992). The lack of variance in administration A number correct for the average-to-above average IQ groups suggests a possible ceiling effect. Participants scored significantly lower under administration D than under administration A (t = 2.15, df = 59, p = .036). Better performance was associated with higher IQ. Performance and IQ correlations were reported earlier.

Comparing the mean number correct and the mean number of errors of male and female participants in study 2 reveals significantly superior
Table 12
Comparison between females and males on mean number correct and mean number of errors under administration A

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>104</td>
<td>7.15</td>
<td>2.49</td>
<td>3.32</td>
<td>134</td>
<td>.001</td>
</tr>
<tr>
<td>Male</td>
<td>32</td>
<td>5.50</td>
<td>2.86</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>104</td>
<td>3.55</td>
<td>3.93</td>
<td>2.79</td>
<td>134</td>
<td>.006</td>
</tr>
<tr>
<td>Male</td>
<td>32</td>
<td>5.75</td>
<td>2.36</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

performance by females under administration A (TABLE 12). Also while mean number correct under administration D indicates superior performance for females (TABLE 13), no significant difference in mean number of errors between males and females is found.

Table 13
Comparison between females and males on mean number correct and mean number of errors under administration D

<table>
<thead>
<tr>
<th>Measure</th>
<th>N</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Correct</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>104</td>
<td>7.00</td>
<td>2.44</td>
<td>2.26</td>
<td>134</td>
<td>.026</td>
</tr>
<tr>
<td>Male</td>
<td>32</td>
<td>5.91</td>
<td>2.25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>104</td>
<td>3.46</td>
<td>3.52</td>
<td>1.91</td>
<td>134</td>
<td>.058</td>
</tr>
<tr>
<td>Male</td>
<td>32</td>
<td>4.78</td>
<td>3.05</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The data showed that while males and females were of comparable age, females had significantly more education than males. The mean age for males was 22.1 years (SD = 15.8) and the mean age for females was 20.4 years (SD = 12.6) (t = .57, df = 130, Ns). At the same time while 78% of the females had more than nine years of schooling, only 25% of the males attained the same level of education, (x^2 = 27.8, df = 4, p < .001). The data further showed that male and female participants who had more education did better than those with less education. TABLE 14 shows that male and female participants with 9 years of education or more had higher.

**Table 14**

Comparisons of mean number correct and mean number of errors under administrations A and D between participants with nine years of education or less and participants with more than nine years of education

<table>
<thead>
<tr>
<th>Administration</th>
<th>Less than 9 (n=52)</th>
<th>More than 9 (n=84)</th>
<th>M</th>
<th>SD</th>
<th>M</th>
<th>SD</th>
<th>t</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>4.35</td>
<td>2.09</td>
<td>8.26</td>
<td>1.41</td>
<td>13.07</td>
<td>134</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td>7.81</td>
<td>3.94</td>
<td>1.74</td>
<td>1.41</td>
<td>12.89</td>
<td>134</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration D</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Correct</td>
<td>5.29</td>
<td>2.10</td>
<td>7.64</td>
<td>2.18</td>
<td>6.20</td>
<td>134</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Errors</td>
<td>6.46</td>
<td>3.70</td>
<td>2.11</td>
<td>1.89</td>
<td>9.05</td>
<td>134</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mean of number correct and lower mean for the number of errors under both administrations.

Discussion

As expected, number correct design and the number of errors under administrations A and D correlated with age and intelligence level. The performance of the participants in study 1 \((n = 781)\) and study 2 \((n = 136)\) improved with age progressively up till the age of approximately 14 years where a plateau was reached and was maintained from that age till the forties. The performance started to decline from mid-forties.

The sample size in study 1 in the age group of 15 to 44 years was sufficiently large to allow for meaningful comparisons with the test's norms.

The mean number correct designs of participants in all IQ/age categories were lower than those expected according to the manual norms. Likewise, the mean number of errors was higher than those expected according to the published norms. The manual, for example, predicts that a healthy person in the age range of 15 to 44 years and of average IQ would score a number correct of 8.

The mean number correct of the participants in study 1 who were in this IQ/age category was 6.4. The expected number of errors for this IQ/age category is 3 while the mean of the number of errors obtained by the participants in this study was 4.88.

This is consistent with the performance of some non-western groups from China, Nicaragua, Venezuela, Ceres, and Johannesburg and Durban (Nell, 2000).
It is however not consistent with the findings in study 2 where the mean number correct and mean number of errors for the participants in the age range 15 to 44 years and who are of average intelligence was slightly better than expected according to the test manual.

The reason for this discrepancy is not instantly clear particularly if we note that both groups were of comparable age and of the same ethnic origin. Yet one factor which could be relevant here is education. Unfortunately, the data in study 1 does not include education.

In study 2 both administration A and D were applied to the participants. Previous reports have shown a decrement in performance under administration D when compared with performance under administration A (Brook, 1975; Sivan, 1992). Brook suggested that the time-delay format provides impressive impact on performance by introducing short-term memory.

Yet the data of study 2 show no significant difference in number correct or the number of errors between the two administrations.

Although participants who are in the age group 15 to 44 years and of average intelligence have a mean correct on administration D of 7.63 compared to mean correct of 8.2 on administration A, the data of study 2 as a whole does not show this difference.

The results obtained in this study for the comparisons between the performances under administrations A and D are consistent with those reported by Randall, Dickson, and Palasay (1988).
It is probable that while in normal testees delay imbedded in administration D introduces short-term memory and more opportunities for decay, it also allows for more consolidation of percepts.

These two factors precipitated by delay may counterbalance and the performance of a healthy testee under administration D will be no different from her performance under administration A.

Both the data of study 1 and the data of study 2 have shown that the performance of females was superior to that of males. Females have higher mean number correct and lower mean number of errors.

This is consistent with the only report on gender effect available in the literature. In this study Krunckle and Asburries (1986) reported superior performance for females in their sample of black adolescents.

Further scrutiny of the data of study 2 showed that not only are females superior in their performance on BVRT but that they also have more education.

Further analysis of the same data showed that male and female participants who have more education fared significantly better than male and female participants who were of less education. It is possible that it was education rather than gender that affected the difference between male and female participants on the BVRT.

Further studies involving education and similar relevant factors are called for before this test can be used for clinical and educational assessments of testees in the Middle East.
References


13. ديكسون ميتشيل، معجم علم الاجتماع، ترجمة حسان محمد الحسن، دار الطباعة، بيروت، الطبعة الثانية 1986.


15. عامر ذيب النحاسي، عبد الله غلوم، أزمة الخليج ومحلة الكويت، 1995.

16. عبد الله عبد الغني غانم، علم الاجتماع السجن، المؤسسات العقابية، مركز بحوث الشرطة، البحرين، 1998.

17. عبد الله عبد الغني غانم، هجرة الأتراك العائلة، المكتبة الجامعية الحديثة، الإسكندرية، 1982.

18. عبد الله عبد الغني غانم، المهاجر المصري، المكتبة الجامعية الحديثة، الإسكندرية، 1990.


22. محمد عاطف غيث، قاموس علم الاجتماع، دار المعرفة الجامعية، الإسكندرية، 1998.

23. محمد باهر شرف، الحياة الاجتماعية في الإمارات، مركز البحوث والدراسات الأمنية، أبوظبي، 1995.
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Epenthesis and Deletion of Arabic Sonorant Consonants

by

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Abstract

This paper aims at studying the epenthesis and deletion of the Arabic /m/, /n/, /l/, and /r/ sounds. The study is descriptive in nature with a presentation of copious data. The varieties of Arabic include dialects, MSA, and CA. Most changes are conditional or explained by some sound change processes, such as consonant harmony, assimilation, dissimilation, apocope, haplology, and syncope. Phonological rules of some sound changes are stated then drawn in notation when necessary. The change is attested with all the four; that is, each of the four sonorants is epenthesized and deleted.

I. Introduction

This study is a sequel to two earlier studies. The first is about the nature of these four sounds (Al-Qahtani, 2000); and the second is about their interchangeability (Al-Qahtani, 2001). The changes discussed in the present work will deal only with sonorant consonants; that is, epenthesis and deletion will be restricted to instances involving /m/, /n/, /l/, and /r/. Changes will include the epenthesis and deletion of each of the four sonorant consonants in classical, standard and colloquial
Arabic. Other phonological processes will describe minor sound changes pertaining to the sounds in question.

**Language Variety**

Three categories of Arabic will be discussed. The three are Classical Arabic (henceforth CA), Modern Standard Arabic (MSA), and dialects (D) (Al-Qahtani, 1988:7). Examples of change will cover all the three varieties when possible. The discussion will start with D first, then MSA, and finally CA.

Almost all Arabic dialects with which the author has strong contacts are included except those of the Arab countries in North Africa. The Saudi dialects include those of Rufaydah, Shahrān, Qahtān, Časīr, Jizān, and Tuhāmah, all in the southern region of Saudi Arabia. Other Saudi dialects discussed are Hijāzi, Najdi, and the dialects of the Eastern Province.

If a change is given as taking place in “D”, it refers to the dialect of Rufaydah, that of the author. Examples from other dialects will be specified. When no reference to a certain language variety is given, it mostly refers to MSA, the standard or common language for all Arabs.

Sharafu d-Din (1984) is the only source on the Yemeni dialect. Abdu t-Tawwāb (1983 and 1988) are used for a few examples from different dialects. Al-Ashbili (1979), Ibn Jinni (1952), Al-Mousa (1984), Shāhin (1985), and the script of the Holy Qur?ān are used for examples on CA. These sources include the examples in texts from CA under different topics, but none of them discussed sound changes as such.

**II. Epenthesis**

This refers to the type of intrusion where one extra sound is inserted in a word. It is known in Arabic as "ziyādah", addition.
2.1  \( \emptyset \rightarrow m \)

(1.1) limäda ḍarabtahā → lamu ḍarabkamiḥ 'why did you beat her?'
2) zayn ma zayn → zayn um ma zayn 'good and the like'
3) li → māli 'it is mine, for me'
4) zabīl → zambīl 'basket made of palm trees'

In (1.1), /m/ is inserted in Yemeni dialect of Ibb (?ibb). (1.2) occurs in the dialect of Bahmain. One word is repeated and a new particle "?um" 'and the like' is inserted between the two. (1.3) is popular in the Gulf area. In addition, (6.b) serves a morphological function.

5) barmīl ← barrel
6a) balaç, balç 'to swallow'
   b) balçūm 'gullet, esophagus'
    7a) hālq 'throat, gullet'
       b) hālqūm 'gullet, esophagus'
8a) zard 'chain, coat of mail'
    b) zardūm CA (obsolete)
9a) xass 'to favor, single out (s.o.)'
    b) xaysūm CA (obsolete)

In CA:
10) baraç & barçam 'to get taller'
11) balas & balsam 'to scowl, glower''
12) fasah & fasham 'to make room'
13) dalaq & dalqam 'to get out of the scabbard (sword)'
14) *fawh → famm 'mouth'
15) ?afwāh 'mouths'

In CA, /m/ is inserted in (b and c) to indicate number of more than one (dual and plural) in (1.16 and 17). This is a morpho-syntactic process of adding a whole suffix.
16a) ?ant '(2psm) you'
    b) ?antumā '(2pdm) """
c) ?antum  
17a) qumt  
b) qumtumā  
c) qumtum  
   ' (2ppm) you'  
   ' (2ps/f) you stood up'  
   ' (2pdm)'  
   ' (2psm)'  
In (1.18-20), /m/ is added to verbs in (c) derived from form V verbs in (b) which is derived, in turn, from the infinitive in (a), and where there are two phonological processes, one feeds the other.

18a) sakan  
b) tasakkan  
c) tamaskan  
   'become still'  
   ''  
   ''  
19a) dirç  
b) tadarraç  
c) tamadraç  
   'coat of mail'  
   'take up arms'  
   ''  
   ''  
20a) nitāq  
b) tanattaq  
c) tamanteq  
   'girth, belt'  
   'to gird (o.s.)'  
   ''  
   ''  

?as-Sāmurrā?i (1983:135) mentions that the Arabic tribe of Tamīm would add /m/ as in (1.21). This was originally a case marker. It is frequent in Hebrew.

21) ?ibn  
   →  
   ?ibnim  
   'son, son of'  
In addition, /m/ is prefixed to some verbs (a) to derive names of instruments (b) in (1.22 and 23), and other nouns as in (1.24 and 25). Dialect speakers make their own infinitives out of verbs and nouns as in (1.26 and 27).

22a) fatahī  
b) miftāh  
   'to open'  
   'key'  
23a) laçiq  
b) milçaqah  
   'to lick'  
   'spoon'  
24a) katab  
b) maktab  
   'to write'  
   'office'  
25a) ḥakam  
b) maḥkamah  
   'to pass judgment, verdict'  
   'court'  
26a) dāḥik  
b) ?udḥūkah  
   'to laugh'  
   'object of ridicule'  
   CA
c) madhabah 'object of ridicule' D
27a) làçan 'to curse, damn'
   b) làçn 'execration, imprecation' CA
   c) malçånah " " D
28) hàsà → hàسام 'pebbles, little stones' D

2.2 ø → n

(2.1) talifün → talanfun 'telephone'
  2) sijîl → sinjîl 'stones like dry mud'
  3) sukkar → sunkar 'sugar'
  4) sakkir → sankir '(imp.) close'
  5) yatabayyan → yînbân '(s.th. will) appear to sight'
  6) ñtablawn → ñtablûn 'tableau'
  7) ñdaraksîyû → ñdaraksûn 'steering wheel'
  8) ñtilifizyû → ñtilifizyûn 'T.V. set'
  9) ñaçtik → ñantik 'I give you' (pres.)
  10) dâbbûs → dårbûs 'pin'
  11) dabbasahu → dårbasahu 'stapler'
  12) dårbašû → dårbašûn 'bewitchment'
  13) tadabbas → ñto be adhered to (s.th.)' v
  14) ñînglîzi → ñînglaynzi 'English' (lang.)
  15) hûnna → hûnnah 'they (fm.)'
  16) → hunnah
  17) båytahûn → båythinah 'their (fm.) house'
  18) mà ñaša? → mà ñstinîš 'I do not want'
  19) ñakalti → ñakaltayn 'you (sg. fm.) eat'
  20) ñakaltaynah
  21) → ñakaltinnah
  22) ñakîlnuh 'they (fm.) eat'
  23) → ñakîlnun
  24) miçtîk → miçtînnik '(l, he) give you'
  25) ñaçytîk → ñaçytînnik '(l, he) see you'
  27) tatabayyan → tînbân '(3psf) become plain'
Some changes above exemplify sound substitutions, i.e. sound fronting (2.1-9). In (2.6-8), original forms (with asterisks) are believed to be the underlying representation (UR) as they are the closest to their French origin. They are easy to describe. The one in (2.6) is clear epenthesis of /n/ finally. The change in (2.7 and 8) is taken from the original written French forms 'direction' and 'television' respectively, though that final syllable is nasalized in French. One is tempted to conclude that Arabic speakers may have come in contact with the French written form before the spoken (e.g. manuals of machinery). But /dr/ was not added in many similar environments (e.g. "*duwsayh → duwsiyyah" 'dossier, file') despite the fact that the sound is present in the loan-word. This process of adding /n/ finally to loan-words is also attested in Sudanese. In (2.3 and 4) the change involves velarization (2.3) occurs in the Jizan area and Said (Sācid) of Egypt. The original form in (2.4) has a similar cognate in Aramaic. Those in (2.24-27) are popular in the Southern and Eastern dialects of Saudi Arabia. The second, (2.25), is
perhaps on the analogy of "šäyif ?innik" '(I) see that you...', while those in (2.26 and 27) are probably to break the initial consonant cluster.

In old dialects of CA, /n/ is used for /ç/ as in (2.9). The same change continues in the Iraqi dialect. This is a case of change from /ç/ to /n/, but is listed under epenthesis though the change to sonorant consonants from non-sonorants is beyond the scope of this work. Moreover, /n/ is inserted in (2.10) in Iraqi dialect, while (2.11 – 13) are in the Hījāzi dialect. Example (2.14) is from the Eastern dialect of Saudi Arabia. The form "hunna" 'they (fm.)' in CA is kept in the area of Ghāmid in Saudi Arabia as in (2.15), and in Ḥāṣid in Yemen as in (2.16 and 17). (2.18) is in Khobān in Yemen. (2.19 and 23) are in Ṣançā?, while (2.20 – 22) are in the west of Yemen. In addition, some Arabic dialects add /-nah/ finally to make infinitives out of verbs and nouns as in (2.29 and 34). Similarly, Ḥas-Sāmurrā?ī (1983:129) says that /-an/ is added finally in the Iraqi dialect as in (2.35 and 36).

35a)  turāb  'dust, dirt; soil'
    b)  tarban  'to become dusty; idle'
36a)  suxām  'soot, smut'
    b)  saxman  'to become black; irritated'

He also adds (ibid) that in the south of Iraq, villagers often add /n/ in the final position of verbs perhaps to lighten the final cluster of a semi-vowel and a consonant as in (2.37 and 38). This change also takes place in the Najdi dialect and dialects of the north of S.A.

37)  ?āruwḥ  →  ?āruḥān  'I go'
38)  ?ašūf  →  ?ašūfān  'I see'

When loan-words are borrowed into a language, they undergo phonetically, morphologically, and lexically conditioned sound changes. The phonetic change in the Arabic word "?al-ṣūd" to the English 'lute' is due to the lack of /ç/ in the inventory of sounds in English.
Abdu t-Tawwâb (1983:38) mentions that /n/ was inserted in the Andalusi (Spanish) Arabic around the tenth century C.E. as in (2.39 and 40). In late CA (2.40) was adopted elsewhere. This is probably a way of breaking the gemination.

39) kurrašah → kurašah 'notebook'
40) çadaabas → qadanbas 'lion'

In CA, /ʔ/ is changed to /n/ as in (2.41), while in (2.42 and 43), /n/ is added to nouns to make adjectives (i.e. attribution).

41a) sançaʔ 'the city of Ṣançaʔ in Yemen'
   b) sançâni '(s.o./s.th.) from, belongs to Ṣançaʔ?'
42a) nafs 'psyche'
   b) nafṣâni 'psychical, psychological'
43a) rawḥ 'soul; spirit'
   b) rawḥâni 'spiritual'

Also, /n/ is added to singular nouns as a plural suffix or marker (2.44 and 45).

44) laḥm → līḥmân 'meats (pl.)'
45) kaṭib → kuṭbân 'sandhills, dunes (pl.)'

In addition, /n/ is added in (2.46 - 49) in D to adjectives, (c), derived from verbs, (a), on the pattern "FaÇLân", in addition to the CA forms (b).

46a) wajîč 'to get sick'
   b) wajîғ 'be sick'
   c) wajîn
47a) nādim 'to regret'
   b) nādim 'be sorry'
   c) nādîm
48a) halak 'to die'
   b) hâlik 'mortal; perishing'
   c) halkân
49a) marîd 'to get sick'
   b) marîd 'sick'
   c) mardân

In addition, /n/ was added in final position of nouns to make diminutives (?as-Sâmûrrâi, 1983:136) as in (2.50).
50) xaldūn, saḥnūn, čabdūn, and jallūn.

   In CA, /n/ is inserted perhaps to get rid of the
gemination as in (2.51 and 52).

51) jaddal → jandal 'to throw (s.th.) to the ground'
52) qattar → qantar 'to arch, span vault (s.th.)'

   In another example, (b and c) are believed to have come
from (a ) in (2.53). If this is true, then /n/ is epenthized.

53a) barah → ?abrah 'came with a proof, proved'
      b) burhān 'proof (n.)
      c) barhan 'came with a proof, proved'

   Also, /n/ is believed to have been inserted in (2.54b) in
Arabic to the Proto-Semitic form in (2.54a), (Amāyrah,
1988:33), then changed to /ml/ before /fl/ in (2.54c). In
Hebrew it remains "kippod".

54a) *quffuḏ 'hedgehog'
      b) qunfuḏ
      c) qumfuḏ

   This word has undergone in its historical development
two sound changes, namely epenthesis of /n/, as in (2.54b),
then its change to /ml/ before /fl/, as in (2.54c)

55) sabal → sanbal 'spikes grew (of a grain)'

   The epenthesis of /n/ in (2.55) is believed to be the
case since CA has the verb "?asbal" '(the plant) has spikes
growing'. Also, the form "subūbal" 'ear, spike (of grain)'
is used in the dialect of Rufaydisah.

   In CA, /n/ is inserted in the following cases of
affixation:

1. To regular verbs to mark the present tense of the form
   "FaÇaL" → "naFÇaL" (1ppm).
56) qām → naqūm 'we stand up'
57) xaraj → naxraj 'we get out'
2. To form VII "?inFaÇaL".
58) ṭalaq → ?intaṭaḥq 'to go off, take off'
3. As a dual marker.

Journal of Humanities and Social Sciences Vol. (17) No. (2) October 2001
59) walad → waladän 'two boys'

4. For nominative case in verbs.

60) taḍrib → taḍribän '(2pd) beat'
61) taḍribün '(2pp) " "

5. As a suffix for emphasis in verbs.

62) naqüm → taqūmanna '(2psm) stand up'
63) naðhab → naðhabann '(1pp) go'

6. To indicate speaker (1p) in verbs.

64) ǧarab → ǧarabani 'he hit me' CA
65) ǧarabni D

7. For "tanwin", 'case endings, nunnation'.

66) walad 'boy'
    waladun 'nominative', "?ar-rafç"
    waladan 'accusative', "?an-nasb"
    waladin 'genitive', "?al-jarr"

8. As a plural marker in noun forms "FuÇLän" and "FiÇLän".

67) qurs → qursän 'round, flat loafs of bread'
68) báb → bibän 'doors'
69) xaruf → xirfän 'sheep (pl.)'

9. Marker for adjectives, of the form "FaÇLän", from verbs.

70) sakir → sakrán '(3psm) be drunk'
71) taḍib → taḍbän '(3psm) be tired'

10. In attribution, adjectives from prepositions and nouns.

72) fann → fannan 'art → artist'
73) fawq → fawqānī 'up → located higher, above'

74) taht → tahtānī 'below → located under'

It is also believed that (b) forms, used in dialects in (2.75 and 76), have come from (a) forms in CA.

75a) lamma '(conj.) when, as, after'
    b) lamman

76a) başda 'later (on)'
    b) başdayn
?as-Sāmurrā?i (1983:128) says that /n/ was inserted in CA in (b) not as case ending or nunnation but as an extra sound and separate orthographic letter, unlike nunnation. This was necessary to distinguish the meaning from that in form (a) as in (2.77 and 78). This change is made for semantic reasons.

77a) dayf  
   b) ḍayfin  
78a) račš  
   b) račšin  
79) ?ayy → ?any 'uninvited quest, sponger'  
80) šaydali → šaydalāni 'the trembling, shaking (s.th.) n.'  
81) çağaţiri → çaňičiri 'which'  
82) mučšir → mutaçuşširin 'which'  

2.3 ø → l

In CA:

(3.1) baçčak & balçak 'she-camel with so much fat'
2) baxxas & balxas 'to become thick (flesh; meat)'
3) baltah & baltah 'to throw oneself to the ground'
4) őāka & őālika 'that, that one'
5) tāka & tīlka 'fem. of the demonstrative pronoun "őāka"'
6) hunāk & hunālik 'there, over there'

(3.7) occurs in the Eastern dialect of Saudi Arabia.
7) sălsah → sălsal 'tomato paste'

This change, (3.7), is a case of consonant harmony, or in a more precise way syllable harmony; that is, when a consonant or a syllable becomes similar to a contiguous one. The change in (3.1 - 3) is to get rid of gemination by inserting /l/.

Moreover, it is inserted in (3.8b and c).

8a) ji?tu kay ʔarāk 'I came to see you'
b) jiʔtu liʔ arák

c) jiʔtu likayʔ arák

In some dialects, it is believed to have been inserted in (3.9b) since the two words have the same meaning. The first, (a), is used in the Holy Qur?ān, while the second, (b), is the recent form.

9a) juba
    "water well"

b) jilib

It is also inserted in (3.10) in the dialect of Khobān in Yemen.

10) çāduh la yqaddi
    "he is still eating lunch"

11) muʕattah → mfalṭah
    "broad, flat; broad-headed" D

2.4  ø → r

The changes in (4.1 and 2) take place in dialects when speakers tend to get rid of gemination by inserting /r/.  

(4.1) haddam → hardam
        "to tear, pull (s.th.) down"

2) ṭabbaq → tarbaq
        "to cover up (s.th.)"

In CA, the forms in (4.3 - 7) (i.e. two or three variants) have the same meaning. The second and third forms in each are derived from the first with the insertion of /r/ as a way of breaking the gemination as in (3.1 - 3) above.

While the change in (4.8) is attested in many dialects, the change in (4.9) is found only in the Eastern Province of S.A. The two original forms (4.8 and 9) are loan-words from English.¹

3) bašlač → baršalač
        "s.th. with no soul"

4) bagaθ → bargaθ & bargūθ
        "flea"

5) bajjam → barjam & barjamah
        "thickness of voice; speaking rudely"

6) qašač → qašač & qašačah
        "to cover up (s.th.)"
"Epenthesis and Deletion" by Duleim Al-Qahtani

7) faqqaṣ → farqaṣ 'to crack one's fingers'
8) *dazin → darzan & dazzīnah 'dozen'
9) *butaytuz → btayris & batātis 'potatoes'
10) dajjan → darjan 'to tame; domesticate (an animal)'
11) bāṭīx → bārtīx 'watermelon'

III. Deletion

This process involves the outright deletion or elision of a sound or its assimilation to another. This is "ḥaḍf" in Arabic. If the assimilation results in the gemination of the next sound, then the process may be seen, at least for our purpose here, as one way of deleting the first sound. However, it is necessary to recall at this point that not all examples cited below are clear cut cases of deletion. It was decided that discussing all the different examples pertaining to the four sonorant consonants is better than picking just those of outright elision which then serves a narrow purpose.

3.1  \( m \rightarrow \emptyset \)

Through gemination, /m/ assimilates before another /m/ as in (5.1) with the deletion of the open (plus) juncture phoneme.

(5.1) kam maṣak → kammaṣak 'how many do you have?'
The two are separate in the stream of sounds when the suprasegmental phoneme, open or plus juncture, is used.

In words in isolation, /m/ is deleted in (5.2). The deletion here is that of a whole syllable.

2) ṭamāṭim → ṭamāṭ 'tomatoes'
The change in (5.2) is a type of dissimilation; that is, /m/ is dropped because it is present somewhere in the same word.
3) hal sa taji? ?am là → mà çid jiš ?awla là
are you coming or not?

4a) limāda
  → layh ' ' Rufaydah
  ' why' CA
b) → limah ' ' Hijāzi
c) → layš ' ' Hamdā, Yemen
d) → limih ' ' Sančā, Yemen
e) → lilmah ' ' Thālā, (Ṭalā?)
f) → lumām ' ' Thālā, (Ṭalā?)
  Yemen
g) → lamuh ' ' Taçiz and Ibb, (Ṭibb) Yemen
h) → lamu ' ' Ibb (Ṭibb) Yemen
  ' habāb 'you are welcome' 
i) → mašān ' ' Shahārah, Yemen
j) →

5) marḥaban bika

The change in (5.3) is in Yemeni dialect. (5.4) shows how one CA form (a) changed to different forms in dialects. (5.4b and c) are Rufaydi, (d) Hijāzi, and (e - i) Yemeni. This change, (5.4), drops /ð/ and other sounds such as the long vowel for ease of articulation. The change in (5.5) occurs in Sudanese.

In dialects, most of the CA forms of pronouns: relative, indefinite, conjunctive, or demonstrative, simple and compound, lost their contrast for number, person, and gender. This is one of the major differences between dialects all over the Arab World and the standard varieties of Arabic (MSA and CA).

The change in pronouns in (5.6 - 10) with a difference in number and gender shows this clearly.

6) ?anta 'you (2psm)' 
7) ?anti ' ' (2psf')
8) ?antumā ' ' (2pdm/f')
9) ?antum ' ' (2ppm')
10) ?antunna ?intu ' ' (2pdf')
In the last three CA pronouns, (5.8 - 10), /m/ and /n/ are deleted with the syllabification vowels in dialects. This process is known as apocope, the loss of a segment or segments at the end of a word. In Arabic, it is known as "tarxīm". The same holds for (5.2) above. Surprisingly, though, some dialects of the Eastern Province kept the original /n/ of the last, (5.10), and replaced the /m/ in the first two, (5.8 and 9), with the addition of length to the last vowel as in (5.11). In Jīzān area, (5.12) is popular.

11) ?antūn 'you (2pd/pm/f)'
12) ?untun

The same change occurs in suffixes of verbs reflecting number (5.13 - 16).

13) qumt 'You stood up'
14) qumtumā 'You stood up'
15) qumtu 'You stood up'
16) qumtunn 'You stood up'

Further, /m/ is geminated in the process of compounding particles as in (5.17 and 18) along with the word boundary or open juncture.

17) ?ammā mā → ?ammā 'as to, for'
18) ?am man → ?amman 'or whoever'

Moreover, /m/ is deleted from the CA forms in MSA and dialects as in (5.19 - 21).

19) ḍabaḥtumūh → ḍabaḥtuh 'you killed him'
20) dafantumūhā → dafantūhā 'you buried her'
21) hamamt → hammayt '(I) worry; intend, plan'
22) kamfür → kāfä 'camphor'

The forms in (5.19 - 20) are still used in the area of Ghamid in Saudi Arabia and some dialects of Yemen.

3.2 n → Ø

The examples in (5.6 - 12) above also illustrate the deletion of /n/. In (6.1 - 3), when /n/ is clustered to another
"Epenthesis and Deletion" by Duleim Al-Qahtani

/in/ in successive order, the two become one geminated /n/. This is clear when form I of the verb, (a), is changed to form VII, (b). These are not clear cases of deletion; but before the change took place, they were identified as two separate /n/ sounds.

(6.1a) nazaç 'to pull out'
b) ?annazaç 'was pulled out, extracted'
2a) natah 'to bump'
b) ?annatah 'was bumped, thrusted (with head/horns)'
3a) nafax 'to blow'
b) ?annafax 'was blown, puffed, inflated'
4) bayna nä → baynnä 'between us'
5) tajannant 'I became mad, crazy'
6) çindana → çidna 'we have'
7) simint → simīt 'cement'
8) bint → bitt 'girl'
9) sinima → sima 'cinema'
10) ?anti → ?itti 'you (2psf)'
11) ?anta → ?itta 'you (2psm)'
12) našar → wašar '(he) sawed (s.th.)'
13) minšär 'saw (instr.)'
14) bantalawın → bṭlūn 'pants, trousers'

(6.12) takes place in the dialect of Bahrain. The change in (6.4) is a form of haplology (see 7.36 - 38 below), or dissimilation. In the Eastern Province, (6.6 and 7) are quite common. The ones in (6.8 and 9) are more common in the Egyptian dialect of Arabic. In the Najdi dialect of Saudi Arabia (6.12) occurs. (6.11) is Iraqi.

The next changes occur across word boundary.
15) min ?al čayn → milčayn 'from the eye'
   In family names where "bin" means 'son of' as in (6.16
   and 17), /n/ assimilates to the following /m/.
16) bin milḥah → bimmilḥah
17) bin marzūq → bimmarzūq
“Epenthesis and Deletion” by Duleim Al-Qahtani

It is believed that the identical or close points and/or manners of the articulation of these sounds are behind this change. In this case, it is hard to pronounce sounds appropriately if they are close or identical in articulation and come in successive order.

Moreover, /n/ in final position of morphemes is assimilated (i.e. geminated) to sonorants occurring at the initial position of words as in (6.18 - 33, 40 and 41). Those examples and the ones above are exemplified in rules [1] and [2] below.

\[
\begin{align*}
[1] & \quad n \rightarrow \emptyset / V \underline{\text{#}} \left\{ \begin{array}{c} m \\ w \\ y \end{array} \right\} V \\
[2] & \quad n \rightarrow C_i / n \underline{\text{#}} \underline{\text{(V)}} \left[ \begin{array}{c} + \text{ son} \\ - \text{ vocalic} \end{array} \right]
\end{align*}
\]

18) lan yajid → layyajid 'he will not find'
19) lan yahdi → layyahdi 'will not rightly guide'
20) man yakün → mayyakun 'who can be'
21) man yafçal → mayyafçal 'who can do'
22) ?an yafqah → ?ayyafqah 'to understand, comprehend'
23) man wasṣāk → mawwasṣāk 'who advised, directed you?'
24) çan man → çamman 'for whom?'
25) çan mā → çammā 'about what...'
26) man maçah → mammaçah 'who is in his company?'
27) ?in minkum → ?imminkum 'that some of you'
28) ?ayyin min → ?ayyimmīn 'whoever it may be'
29) min maḍækah → mimmaḍaqah 'from its taste'
30) min nūrah → minnūrah 'from Nourah'

Journal of Humanities and Social Sciences Vol. 17 No. (2) October 2001
31) min nurtah → minнутах 'from a sperm, drop'
32) ḥan raṣṣ → ḥarras 'was compressed'
33) ḥan raʔāh → ḥarrāʔāh 'if he sees him'
34) šanyāh
35) činwān
36) ḥanmāt
37) ḥanmalah
38) xatan musa
39) xatam müsa → xatammūsa 'Mousa finished s.th.'

In (6.18 - 23), /n/ is assimilated when gliding to /y/ and /wl. In (6.24 - 29), /n/ is assimilated to /ml/. In (6.30), it is assimilated or geminated to the next /n/. In (6.32), /n/ is assimilated to /rl/. Examples in (6.34 - 37 ) show that the change described in [2] takes place only over word boundary but not within words. In (6.38), /n/ is retained probably to make a distinction in meaning between that sentence and the one in (6.39) both in D.

The vowel between brackets, in rule [2], is optional. However, it is clear and subject to elision in (6.40 and 41).
40) bani l ḥāriθ → balḥāriθ 'people of "Hāriθ"
(a tribe)'
41) bani l ḥāmar → ballahmar 's. o. attributed to the tribe of "ʔāḥmar"'

Arab and Muslim phoneticians ascribe this total loss or assimilation of one of the two contiguous sounds to their identical or close places and/or manners of articulation. (see Al-Asbīlī, 1979).

In CA, /n/ is deleted in (6.42 - 51).
42) munḍu → munḍ → muḍ 'since'
43a) nahnu → ḥin 'we'
b) → ḥin ''
c) → niḥnā ''
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Changes in (6.43 - 44) are types of dissimilation to avoid the repetition of the same sound in the same word. Those changes are from CA to D. While the dialects of Qahtān and Shahrān dropped the /n/ in (6.43b), Çasirî dialect kept it in (6.43d). The Najdi dialects dropped it in (6.43e and f). In (6.45c) speakers of Yemeni dialect in Taçiz area kept the /n/ sound. Some CA pattern II verbs ending in /n/ with geminated /n/ added for emphasis lose the last syllable "-ann" in MSA and dialects as in (6.53 - 56). MSA and dialects tend to drop the final /n/ in CA verbs such as those in (6.57 and 58) even if the sound is followed by the object marker, the pronoun "-ük" 'you' as in (6.59 and 60). The
change in (6.46 and 47) is perhaps a result of the elision of the medial vowel, and subsequently the avoidance of having a cluster of three consonants.

61a) ?aymunu ?alāh → 'I swear to God'

b) → ?aymunu ?alāh
c) → ?aymu ?alāh
d) → ?amu ?alāh
e) → mnu ?alāh
f) → mu ?alāh

In CA, (6.61) developed into five forms (b - f) (Abdu t-Tawwāb, 1983:100). In compound particles, /n/ is lost as in (6.62 - 66, 68 and 73 - 77). (6.76) takes place in the recitation of the Holy Qur'ān (S.V.104).

62) ?in lā → ?illā 'if not; except; only'
63) ?in lam → ?illam 'if not'
64) ?an lan → ?allan 'not to'
65) ?an lā → ?allā 'that ... not, in order that'
66) man lam → mallam 'who did not...'
67) min lāzimik → millazimik 'who is holding you?'
68) ?an laysa → ?allaysa 'it is nothing but...'
69) ?an lā ?ilāh → ?allā ?ilāh 'that there is no god...'
70) min ?al-bāb → mīlab 'from the door'
71) min ?annabi → minnib 'from the prophet (pbuh)'

72) çan ?annabi → çan innibi 'by, from, for the prophet (pbuh)'
73) ?inna mā → ?immā 'or, either... or; if'
74) çan mā → çammā 'about what'
75) ?in mā → ?immā 'if not...'
76) min mā → ?immā 'from what'
77) min man → mimman 'from whom'
79) tabban lak → tabbal lak 'may evil befall you, may you perish!'
80) ladunk → ladayk 'in your possession'
ladun → ladu '
81) nunji → nujji '(we) save (s.o.)'
The deletion in (6.80) is perhaps to avoid velarization. The change in (6.81) is in the Holy Qur\-\=an (S. XXI. 88). The change in (6.72) is blocked in order to distinguish the output from that in "\=çal\=a ?annabi \rightarrow \=çannabi" 'on the prophet (pbuh)'.

The plural 'years' has three forms in MSA and dialects, "siniyy", "sin\=in", and "sanaw\=at". The last is more popular. The first may have been a form in one of the old dialects of CA to which /n/ was later added.

82) \=danant \rightarrow \=danayyt 'I thought, believed'
83) tah\=inann \rightarrow tah\=in 'be of little importance'
84) ta\=d\=ribann \rightarrow ta\=d\=rib '(2pm) beat'

In (6.83 and 84) the corroborative "\=n\=un" is deleted. Moreover, /n/ is deleted in the following cases (6.85-97).

1. At the end of verbs indicating number and gender.
2. In the present tense form of the verb "k\=an" 'to be'.
3. The supporting "\=n\=un", or that of protection, "\=n\=un" \=al-wiq\=ayah with the particle "la\=calla", with accusative noun immediately following.
4. The light corroborative, "\=n\=un" \=at-tawk\=id \=al-xaf\=ifah".
5. To accommodate the poetic rhyme and meter.
6. The vowellessness (lack of vowel) of "?ann\=un \=as-s\=akinah" in the final position.
7. The "\=n\=un" in "-ni", the first person singular object marker. When suffixed to the five verbs: yaF\=Ca\=L\=un,
taF ÇaLūn, yaF ÇaLān, taF ÇaLān, and taF ÇaLin, it tends to drop as in (6.93 - 97).

93) yaṭribūnāni → yaṭribūnī '3pp) beat me'
94) taṭribūnāni → taṭribūnī '2pp) ' '
95) yaṭribānāni → yaṭribānī '3pd) ' '
96) taṭribānāni → taṭribānī '2pd) ' '
97) taṭribīnāni → taṭribīnī '2pdf) ' '

In (6.87), /n/ is adjacent to /l/. Therefore, it drops. This fact alone is tempting to draw a general rule. However, it does not take place everywhere.

3.3  / → θ

With the so-called "šamsiyyah", the 'sun' or 'solar' letters, (+ coronal) sounds, /l/, in the definite article '?'al' 'the', is assimilated to the coronal sound it precedes as in rule [3] below. Coronal sounds are: /l/, /d/, /j/, /l/, /θ/, /ð/, /l/, /l/, /šl/, /sl/, /zl/, /šl/, /yl/, /n/, /l/, and /rl/. Noncoronal sounds are called "qamariyyah", the 'moon' or 'lunar' letters. This sound change is documented to date back to the fifth century C.E. This assimilation occurs with [+ coronal] sounds except /j/ in MSA. That same assimilation occurs with /j/ in the acquisition of Arabic by children and continues in the adult language in Hijāzi and Sudanese dialects.

\[
\begin{array}{c}
\text{[3]} \quad 1 \rightarrow \text{C}i / \# \quad + \text{vocalic} \\
\quad \text{- tense} \quad \# \quad \text{C}i \\
\quad + \text{cor}
\end{array}
\]

In Sudanese Arabic, /l/ is deleted as in (7.1 and 2).

7.1) walad xalīfah → wad xalīfah 'son of Khalifah'
2) walad madani → wad madani 'son of Madani'

In many dialects, it is deleted as in (7.3); and in (7.4) in Hijāzi, Sudanese, and Egyptian dialects.

3) çalašān → çashān 'because'
4) walad → wäd 'boy, son'
5) lam taçud šālihah → ma çäd tušluh 'it is no longer good'
(7.5) is in Rufaydah and Hijāzi dialects. The loss of a medial sound or syllable is a form of syncope.
   In (7.6 - 11), /l/ is deleted before /n/. In (7.12 - 14) it is deleted before /n/.
6) fasalnā → fassannā '(we) set forth in detail' II
7) faddalnā → faḍḍannā '(we) give preference' II
8) qullnā → qunnā '(we) said' Past
9) ?anzalnā → ?anzannā '(we) sent down, revealed' II
10) jaçalnā → jaçannā '(we) made'
11) bi l-nās → bi nnās 'with people'
12) sallim lannā → sallim innā 'hand in to us'
13) kullnā → knnā 'all of us'
14) jīb lannā → jib innā 'bring for us'
   Those in (7.15 - 22) are in the Yemeni dialects. (7.16 - 17) are in Ṣanča, (7.18) in Ḥajrūr, and (7.19) is in Taçiz (Sharçab). Those in (7.20 and 21) are in Khwālān (Ṣaçdah) and Taçiz (Ḥajriyyah) Yemen. In (7.20 - 22), the 'moon' /l/
   "?al-qamariyyah" is treated like the 'sun' "?as-šamsiyyah" which then gets deleted in the dialects of Khwālān (Ṣaçdah) and Hajriyyah (Taçiz) in Yemen.
15) ?iddi lanā → ?iddinā 'give to us'
16) quli lanā → qunnā 'say to us'
17) ?ilīs → ?iṣṣ 'imp. set down'
18) qul lāhum → qullum '(imp.) say to them'
19) qul lah → qullu '(imp.) say to him'
20) ?al ḥabb → ?aḥḥab 'the grains, seed'
21) ?al baqarrah → ?abbaqarat 'the cow'
22) ?al bāb → ?ibbāb 'the door'
23) liyumli → liyumli 'to dictate'
24) lilāhi → láhi '(to) God ..'
25) çalā l-bāb → çallbāb 'on (at) the door'

Journal of Humanities and Social Sciences Vol. (17) No. (2) October 2001
The change in (7.23) is from CA, as in the Holy Qur'ān (S.II.282), to MSA. The same holds for (7.24).

In addition, /l/ is deleted in the following cases (7.26 - 32).

1. "li", or "läm ?at-taçilil" is used to indicate the purpose for which, or the reason why, a thing is done.
   26) likay → kay 'so that, in order that'

2. The requisitive "läm", or "li" or command, "läm ?al-?amr".
   27) liyafçal → yafçal 'do'

3. The "läm" of the correlative, "läm ?al-jawāb", of "law" and "lawlā". In other words, the "lä" that corresponds to, or is the complement of "law" or "lawlā".
   28) law našā?u lajaçalnāhu → jaçannāhu 'we make him

4. The subsidiary "läm", "?al-mūti?ah lil-qasam" the "lä" that smooths the way for the oath.
   29) la?in já?a → ?in já?a 'if he comes'

5. The definite article "?al" 'the'.
   30) çala r-raḥbi wa s-saçah → raḥban wa siçah 'most welcome'

6. "lä" that denies the whole genus "lä ?annāfiyah lil jins".
   31) là rajula wa là ?imra?ah → la rajul wa ?imra?ah 'not a man nor a woman'

7. To adjust for the poetic rhyme and meter.
   32) çala ?al-mā? → çal-mā? 'on, above the water'

In some most recent borrowings from English, /l/ is deleted in (7.33 and 34). The original words in (7.33) have two identical syllables; one was modified in the changed form. Also, three sonorant consonants were present; one was deleted. Moreover, the original form has a cluster of four consonants; D had to break that sequence by dropping one.  

   33) rawlz rawiyz → rawz ráyiz 'Rolls Royce (a brand name)'

   34) staynlis stil → sunstil 'stainless steel'
When prepositions or particles having /l/, like "çala" 'on' or "ili" 'for', come before nouns, beginning with /n/ and prefixed with the definite article "?al" 'the', the same change takes place, dropping with it other sounds like /-a?al- as in (7.35 - 37).

35) çala ?al nabi  →  çannibi 'upon the Prophet (pbuh)'
36) çala ?al namâs  →  çannamâs 'to (the city of) Namâs'
37) li il nama  →  linnama 'for the boy'
38) çalayy it talâq  →  çattâq '(l) divorce'
39) xallana  →  xanna '((imp.) you (2ps) let us' D

40) rijl  →  ?ijr 'leg, foot'
41) hal ra?ayt  →  harra?ayt 'have you seen?'

In these examples two syllables are nearly similar 'li' with 'il' and 'la' with 'al'. As a form of deletion, an entire syllable may be deleted when it is identical to another. This form of change is known as haplology; that is, the omission of some of the sounds occurring in a sequence of similar articulation. In the Zahra dialect in Ghamid area of Saudi Arabia (7.38) is common. (7.40) is in some dialects in Palestine, Jordan, Syria, and Lebanon. (7.41) is a case of degemination "fakk il ?idqam".

3.4  r  →  Ø

Examples in (8.1 - 5) show how /r/ drops.

(8.1) (Sanskrit) zrinjabayra  →  (Arabic) zanjabil 'ginger'
2) markâ  ~  matkâ 'couch, sofa' D
3) darfah  →  daffah 'leaf (of a double door/window)'
4) qarnabît  →  qannabît 'cauliflower' MSA
5) xadamanag  →  xadannaq 'spider' CA
6) çišrin  →  çiššin 'twenty'

In (8.3 - 5), /r/ is deleted and the next consonant is geminated. Arabic has the tendency to break the gemination of one consonant by inserting one of the sonorant consonants
before the geminated sound which eventually becomes ungeminated. However, changes in (8.3 - 5) go in the opposite direction. The change in (8.3) is from MSA to D, whereas in (8.4 and 5) it is in CA and MSA. Also, /rr/ is deleted along with /ml/ in the Sudanese in (5.5).³

IV. Conclusion

In this fairly descriptive study it was found that all the four sounds accept epenthesis and deletion with no exception almost in the three varieties (categories) of Arabic. The direction of change is shown below:

\[
\begin{align*}
\emptyset & \rightarrow \text{ m} \\
\emptyset & \rightarrow \text{ n} \\
\emptyset & \rightarrow \text{ l} \\
\emptyset & \rightarrow \text{ r} \\
\text{ m} & \rightarrow \emptyset \\
\text{ n} & \rightarrow \emptyset \\
\text{ l} & \rightarrow \emptyset \\
\text{ r} & \rightarrow \emptyset
\end{align*}
\]

In the previous pages, changes are either stated in phonological rules or attributed to some phonological processes of sound change. Changes occur both within words and across word boundaries. Sound changes take place in the spoken language first then, with the passage of time, establish grounds in the written form of the language as has been the case in most languages. For example, the forms "min mā" and "çan mā" 'from what...' and 'about what...' have phonetically and orthographically become "mimmā" and "çammā" respectively.

Epenthesis and deletion of Arabic's four sonorant consonants is subsequently found to be one of the frequent
changes among Arabic consonants. When it comes to the process of deletion alone, the voiceless glottal stop "hamzah", may rank first in the quantity of change. With the exception of this, dialects and MSA have shown that sonorant consonants greatly affect the system and patterns of sounds in Arabic phonology.

While 'language' is 'systematic' and a 'system of systems', it is 'arbitrary' and 'conventional'. It is 'universal' but 'unique'. Similarly, sounds change by what is known as dissimilation; that is becoming less like a neighboring sound. At the same time, they change in what is known as consonant harmony or neutralization; that is becoming similar to a neighboring sound. With this in mind, it cannot be asserted that language is going through a state of imbalance; nor can it be said that this change is systematic. Language, like its speakers, must be said to be (alternative) subject to constant flux and change.

However, in the acquisition of language, children tend to make the same changes as adults. This in itself has a remarkable significance. Children start demonstrating these sound changes before formulating a complete linguistic knowledge or competence of their native language. These deviations from the general norm of sound system and patterns are inherent in the vocal system in the sense that they are a result of the mechanisms of simplifying the production of sounds in relation to each other. Therefore, these sound changes seem to fill gaps in the sound systems of all natural languages. It is in this respect, in particular, that the series of articles of which this is the third may be seen to have universal applicability in the creation of language as a phenomenon and to the rich diversity of languages which exist today.

In the remaining lines, an approximate number of reasons behind these sound changes will be given. The following are general reasons. A reference is made to
numbers of examples from earlier pages. Other examples may be cited from (Al-Qahtani, 2001:42-44)

1. Perversion and phonetic corruption of some words, "tahrīf", as a result of changes and distortions in the writing of old Arabic texts before the invention of printing machines.

2. Haplography, "tashīf", of graphic dots or diacritic marks before printing.

3. Tune or melody in the recitation of the Holy Qur'ān.


5. Borrowing (epenthesis: 2.6 - 8) (deletion: 7.33 and 34).

6. Languages acquisition by children.

7. Imperfect language learning by non-native speakers of Arabic.

8. Avoidance of unfavorable or taboo expressions.

The following are some of the special reasons. Those about 'epenthesis' are represented in (A) while the ones in (B) represent 'deletion'.

A.1. Sonorant consonants (SC) may be inserted to break gemination (2.39, 40, 51 and 52; 3.1-3; and 4.1, 2, 6 and 7).

A.2. SCs may change on the analogy of existing forms (2.25).

A.3. SCs are inserted to break consonant clusters (2.26, 27, 37 and 38).

A.4. SCs may be inserted to establish some consonant harmony (3.7).

A.5. SCs may be inserted for semantic effect (2.6 - 8).

B.1. In general, there is a tendency in Arabic to break the gemination by inserting a SC. However, there is a counter change. When two SCs co-occur in one cluster or in contiguous positions, it is likely that one of them drops. (dissimilation & haplology) (5.2, 6.4, 7.36 - 38, and 8.3 - 5). The same holds for whole syllables consisting of SCs. In (9.1-3) below, two of the four sounds appear in adjacent positions.
Hence, one drops as it is hard to pronounce the two in one cluster. Moreover, the change was necessary to break the sequence of three consonants.

(9.1) marlburu 'a brand name of cigarettes'
2) → malburu
3) → marbulu

B.2. Due to the influence of neighboring sounds SCs are deleted (assimilation) (6.18 - 33).
B.3. SCs may drop in one position if they are present somewhere in the same word (dissimilation) (6.43 - 44).
B.4. SCs may drop at the end of words probably for economical reasons (apocope) (5.2 and 8 - 10).
B.5. SCs may drop to avoid velarization (6.80).
B.6. SCs may drop from medial position of words again for economical reasons (syncope) (7. 1 - 5).

Notes

1 The same change takes place in English as in (10.1)
   10.1) idea → idear

2 In English, /l/ is dropped when adjectives ending in '-ly' are used as adverbs in order not to repeat the same syllable as a way of dissimilation as in (10.2).
   10.2) *livelily → lively as in 'he stepped lively'

3 In English, /r/ is deleted in (10.3 - 5) in one syllable because of its presence in the following syllable. This change is a form of dissimilation.
   10.3) surprise → suprise
   4) library → libary
   5) governor → govenor
### Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>*</td>
<td>Unacceptable, ungrammatical; historical reconstructed form, protoform</td>
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<tr>
<td>∅</td>
<td>Nil (zero occurrence) also used for [th]</td>
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<tr>
<td>#</td>
<td>Word boundary</td>
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<tr>
<td>l-XV</td>
<td>Arabic verb forms, patterns (I-X, and XI-XV)</td>
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<tr>
<td>1ppm/f</td>
<td>First person, plural, male/female</td>
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<tr>
<td>2pdf</td>
<td>Second person, dual, female</td>
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<td>3psm</td>
<td>Third person, singular, male</td>
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<td>C</td>
<td>Consonant</td>
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<td>CA</td>
<td>Classical Arabic</td>
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<td>D</td>
<td>Dialect</td>
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<td>fm.</td>
<td>Female</td>
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<td>imp.</td>
<td>Imperative</td>
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<td>MSA</td>
<td>Modern Standard Arabic</td>
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<td>o.s.</td>
<td>Oneself</td>
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<td>pl.</td>
<td>Plural</td>
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<td>pbuh</td>
<td>Peace be upon him (the Prophet)</td>
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<td>S.</td>
<td>Sūrah (Chapter of the Holy Qurʾān)</td>
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<td>s.o.</td>
<td>Someone</td>
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<td>s.th.</td>
<td>Something</td>
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<td>sg.</td>
<td>Singular</td>
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<td>± son</td>
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The phonetic transcription system

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<th>Arabic Consonants</th>
<th>Place of Articulation</th>
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<tr>
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* : Emphatic

Arabic Vowels

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<th>Arabic Vowels</th>
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References


“Epenthesi and Deletion” by Duleim Al-Qahtani


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زيادة وحذف أصوات الرنين الساكنة في اللغة العربية

دليم بن مسعود القحطاني
كلية الجبيل الصناعية - المملكة العربية السعودية

ملخص البحث:

هذا البحث يتناول ظاهرة زيادة وحذف أصوات آل/، ألم/، ألم/، وألم/ العربية. والدراسة وصفية في طبيعتها مع تقديم مسح غير من الأمثلة. واللغة هنا تشمل اللهجات والفصحي الحديثة والقديمة، وتشمل هذه التغيرات تكون مشروطة أو مرتبطة بتغيرات صوتية مثل ظواهر التواقين والتماثل، التخالف، الترخيص، الحذف الوسطي، وفي مواقف أخرى. كما وأن القواعد الصوتية المتعلقة بهذه الأصوات لعظم التغيرات الصوتية قد صيغت في عبارات ثم رسمت بالترميز الصوتي. وقد تبين أن الزيادة والحذف شائعان في كل الاتجاهات بين الأصوات الأربعة، محور الدراسة. وممثطل آخر فإن كل من الأصوات الأربعة يزداد ويحذف.
Book Review


Reviewed By

Yahia Ashour Mohammad AL-Khoudary
University of Malaya (Malaysia)

This newly published book is of interest for learners of Arabic as a foreign/second language, researchers, syllabus designers and teachers of Arabic.

In this study, the author has investigated the use of certain aspects of the Arabic verb phrase by Malaysian Islamic secondary school learners of Arabic. The reasons for examining this topic are as follows:

First, the verb is a very central area of grammar, which causes a lot of difficulty to second/foreign language learners in general.

Second, the verb in Arabic is one of the most difficult areas that encounter the learner of Arabic as a foreign/second language. It has a very complex structure. Some aspects of this complex structure include agreement, tense, mood and voice.

As to agreement, the Arabic verb agrees with its subject in person, number and gender. All these are indicated by certain inflectional affixes i.e. (suffixes, infixes and prefixes).
Arabic tense is a major problem. There are three tenses in Arabic: past, present and future. The Arabic verb is inflected for tense. Tense inflections vary according to person, gender and number. This is the most difficult problem for Malaysian learners of Arabic. They confuse and mix up the wrong tenses with the wrong inflections.

The Arabic verbs also inflect for case or mood. There are three moods in Arabic: the nominative, accusative, and jussive. This grammatical category is difficult not only for Malaysian learners but also for native speakers of Arabic. Also there are two voices in Arabic: past and present. Person, number and gender inflect Arabic verb for voice, which cause problems to learners of Arabic as well.

Third, lack or rarity of studies of error analysis in Arabic in general and the use of the verb phrases in particular by Malaysian learners of Arabic.

This book consists of seven Chapters as follows:

**Chapter 1:**

Introduction. It is a discussion of the statement of the problem, the theoretical framework of research, questions of the study, aims and objectives of the research, significance/contributions of the research, background information about Malaysia, status of the Arabic language and Islam in Malaysia and the place of data collection.

**Chapter 2:**

Review of Literature. It discusses the approach of error analysis and related phenomena. The main points can be summed up briefly as follows:

One) Contrastive analysis investigates the similarities and differences between L1 and L2. Most errors are due to L1 interference. Errors are harmful and must be eliminated.
Two) Error analysis (EA.) rejects the notion of L1 interference as the only cause of errors. Errors can be caused by many sources. Learners make errors as their learning of L2 progresses and advances. In other words, errors are developmental.

Three) Interlanguage is a further extension of error analysis. It means that learner’s language, which includes both their errors and non-errors, has agents or elements of both their L1 and L2.

Four) Variability in interlanguage means that learner’s language varies according to linguistic, social and stylistic factors. This is basically the application of Labov’s work to English as a second language.

As mentioned in this section, there have been a number of studies done on EA. These studies concluded that the sources of errors were not interlingual interference from L1 but also intralingual.

Error analysis is not a totally new area of research especially in Arabic Applied Linguistics. Arab Muslim linguists and grammarians had studied it twelve centuries ago. Contemporary Western Error Analysis Studies Coder (1973) when compared with their classical Arabic counterparts were very, very much alike, indeed. Thus, classical Arabic linguists were the predecessors in this field of linguistics (cf. Fromkin: 1988). Also, other linguists very never affected them. A leading British historian of linguistics, R.H. Robins (1990:111) says in this respect:

“It is certain that Arabic linguists developed their own insights in the systematization of their language, and in no way imposed Greek models on it as the Latin grammarians had been led to do”.

**Chapter 3:**

structure and Function of the Arabic Verb Phrase in Standard Arabic. The chapter discusses the verb phrase in Standard Arabic in some details. The Arabic verb is very complex structure in terms
of agreement, tense; mood and voice, all of which are expressed inflectionally.

Chapter 4:

Research Design and Methodology. This chapter deals with the research design and methodology employed for this study. It consists of three sections: section 1 describes the research design; section 2 describes the methods of data collection and section 3 describes procedures of data analysis.

Chapter 5:

Presentation and Discussion of Errors. It deals with the presentation and discussion of errors. It consists of two sections: Section 1 deals with tense errors, and section 2 deals with Subject Verb Agreement (S.V.A) errors. The data presented in the form of qualitative and quantitative approach.

Chapter 6:

discussion of Causes of Errors. This chapter is a discussion of errors’ causes on tenses and SVA. It gives a general view of Malay-Arabic interlanguage and fossilization, sources of errors and stages of the learners’ errors. The main points can be summed up as follows:

1- As to interlanguage errors, two points are worth-mentioning. The finding is that one can say that there is a Malay-Arabic interlanguage, which consists of students’ errors and non-errors. This means the use of Arabic in a way, which is neither truly Arabic nor truly Malay but rather halfway in between. The second point concerns the fact that no conclusive evidence for fossilization has been found due to the young age of the learners.

2- As to causes of errors, the major causes are: Language transfer or mother tongue influence, Arabic loan words in Malay, inherent difficulty of the Arabic language, influence of Arabic dialect, non-standard Arabic dialect, style,
overgeneralization, the dictionary, simplification, ignorance of rule restrictions, incomplete application of rules, incomplete mastery of Arabic, incomplete practice of tense particles, false analogy, the text book, the teacher, the teaching method, lack of vocabulary, and hypercorrection.

It is worthwhile to note that these causes are not always clear-cut. There may be an overlap between causes. That is, one error may be due to more than one cause at the same tome: e.g. overgeneralization, incomplete application of rules, simplification and the dictionary.

In addition, there may be other secondary causes of a psychological nature. These include forgetfulness, lack of attention, carelessness and misunderstanding, deficient hearing, lack of practice and speed of writing. These definitely lead to errors but there is no way of making sure that a particular error is due to one of these as no hard evidence can be given.

With regard to stages of errors, students' errors are in the pre-systematic and systematic stages. The former relates to the future tense, five-form verbs and future tense particles whereas the latter applies to tense choice such as replacing the present by the past tense and vice-versa and jussive and accusative particles.

**Chapter 7**

conclusions, suggestions, and Recommendations. This chapter summarizes the main conclusions of the study. It also tries to give, in light of the findings of the research, certain suggestions for language teaching, especially Arabic tense and SVA. These include: techniques of error correction, teaching of Arabic tense and SVA t Malays who learn Arabic, teaching of Arabic in Malaysia generally and National Religious Secondary Schools in particular. It is hoped that such suggestions will serve to improve teaching and learning or to help the Arabic teacher and learner. Finally, some recommendations are made for concluding future researches in the field of tense, S.V.A. and other related issues.
References


منهج نقد الروايات والأخبار عند المحدثين لضبط السنة / 5. حسن سالم الوديسى


51 - المنهل اللطيف في أصول الحديث: محمد بن علوي المالكي، مطبع سحر جدة ط 4، 1402هـ.

52 - الموقفة في علم مصطلح الحديث: لشمس الدين الذهبي، بتحقيق عبد الفتاح أبو غزاة، مكتب المطبوعات الإسلامية، حلب، الطبعة الثالثة، سنة 1418هـ.

53 - ميزان الاعتدال في نقد الرجال: للحافظ شمس الدين الذهبي، بتحقيق علي محمد البجاوي، مصورة دار المعرفة بروتو، وطاعة السعادة 1325هـ وعيسى الباجي الحليبي 1318هـ.

54 - التكت على كتاب ابن الصلاح: للحافظ ابن حجر العسقلاني، بتحقيق الدكتور ربيع بن هادي عمر، نشر دار الراية بالرياض، ط 4، 1417هـ.

55 - هدي الساري مقدمة فتح الباري: للحافظ ابن حجر العسقلاني، بتحقيق الشيخ عبد العزيز بن باز، محمد فؤاد عبد الباقي، دار الكتب العلمية بروتو، الطبعة الأولى 1410هـ – 1989م.
References


51 - المنهل اللطيف في أصول الحديث : محمد بن علوي المالكي ، مطبوع سحرٍ بجدة ط 4،
52 - الموظقة في علم مصطلح الحديث : نشام الدين الذهبي ، بتحقيق عبد الفتاح أبو غزّة
53 - ميزان الاعتدال في نقد الرجال : للحافظ شمس الدين الذهبي ، تحقيق علي محمد البجاوي
54 - التكّت على كتاب ابن الصلاح : للحافظ ابن حجر العسقلاني ، تحقيق الدكتور ربيع بن
هادي عمر ، نشر دار الراية بالرياض ، ط 4 ، 1417 هـ.
55 - ساقي الساري مقدمة فتح الباري : للحافظ ابن حجر العسقلاني ، بتحقيق الشيخ عبد
العزيز بن باز ، محمد فؤاد عبد الباقي ، دار الكتب العلمية بروت ، الطبعة الأولى
1410 هـ - 1989 م.