The Arabic Origins of "Air and Fire" Terms in English, German, and French: A Lexical Root Theory Approach

Zaidan Ali Jassem

==========
Language in India www.languageinindia.com **ISSN 1930-2940 Vol. 13:3 March 2013**
==========

Abstract

This paper investigates the Arabic origins of *air* and *fire* terms in English, (German, French, Latin, and Greek), using a lexical root theory approach. The data consists of about 140 common English words for *air* (80) and *air* (60) terms. The results show that all such words in Arabic and English, for example, are true cognates with the same or similar forms and meanings. However, their different forms are shown to be due to natural and plausible causes of phonetic, morphological and semantic change. For example, Latin and Greek *aer*, French *air(e)*, English *air*, and Arabic *air (iar, uiar)* (also *raiya* in reverse) 'air' are identical cognates; Greek *pyr*, German *Feuer*, English *fire (inferno)* come from Arabic *naar/noor* 'fire, light' where /n/ became /f (p)/. This entails that Arabic and all these languages belong not only to the same family but also to the same language, contrary to traditional Comparative (Historical Linguistics) Method claims. This proves the adequacy of the lexical root theory for the present analysis according to which Arabic, English, German, French, Latin, and Greek are dialects of the same language with the first being the origin due to its lexical variety and multiplicity.

Keywords: air and fire words, Arabic, English, German, French, Greek, Latin, historical linguistics, lexical root theory

1. Introduction

The genetic relationship between Arabic, English, German, French, Latin, Greek and Sanskrit has been clearly and firmly established in several papers (Jassem 2012a-f, 2013a-d). In his seminal study of the numeral words from *one* to *trillion* in Arabic, English, German, French, Latin, Greek and Sanskrit, Jassem (2012a) showed that all exhibit the same or similar forms and meanings in general, forming true cognates with Arabic as their end origin. For example, *three (third, thirty, trio, tri, tertiary, trinity, Trinitarian)* derives from a 'reduced' Arabic *thalaath* (*talaat* in Damascus Arabic (Jassem 1993, 1994a-b)) 'three' through the change of /th & l/ to /t & r/ each. This led him to reject the claims of the Comparative 'Historical Linguistics' Method which classifies Arabic and English, German, French, and so on as members of different language families

(Bergs and Brinton 2012; Algeo 2010; Crystal 2010: 302; Campbell 2006: 190-191; Crowley 1997: 22-25, 110-111; Pyles and Algeo 1993: 61-94). Therefore, he proposed the lexical root theory to account for the genetic relationships between Arabic and English, in particular, and all (Indo-)European languages in general for three main reasons: namely, (a) geographical continuity and/or proximity between their homelands, (b) persistent cultural interaction and similarity between their peoples over the ages, and, above all, (c) linguistic similarity between Arabic and such languages (see Jassem 2013b for further detail).

His subsequent research gave a decisive and clear-cut linguistic evidence. Jassem (2012b) traced the Arabic origins of common contextualized biblical or religious terms such as *Hallelujah*, *Anno Domini*, *Christianity*, *Judaism, worship, bead, welcome,* and so on. For instance, *hallelujah* resulted from a reversal and reduction of the Arabic phrase *la ilaha illa Allah* '(There's) no god but Allah (God)' as follows:

Halle	+	*lu*	+	*jah*			
Allah		*la*		*ilaaha*	&	*illa*	
'God'		'no'		'god'	&	'except'.	

That is, *Halle* is *Allah* in reverse, *lu* and *la* (pronounced *lo* also) are the same, *jah* is a shortening of both *ilaaha* 'god' and *illa* 'except' which sound almost the same. Jassem (2012c) found that personal pronouns in Arabic, English, German, French, Latin and Greek form true cognates, which descend from Arabic directly. For example, *you* (*ge* in Old English; *Sie* in German) all come from Arabic *iaka* 'you' where /k/ changed to /g (& s)/ and then to /y/; Old English *thine* derives from Arabic *anta* 'you' via reversal and the change of /t/ to /th/ whereas *thou* and *thee*, French *tu*, and German *du* come from the affixed form of the same Arabic pronoun *-ta* 'you'. Jassem (2012d) examined determiners such as *the, this, an, both, all* in English, German, French, and Latin which were all found to have identical Arabic cognates. For instance, *the/this* derive from Arabic *tha/thih* 'this' where /h/ became /s/. Jassem (2012e) established the Arabic origins of verb *to be* forms in all such languages. For example, *is/was* (Old English *wesan* 'be'; German *sein*; French *etre, es, suis*) descend from Arabic *kawana* (*kaana*) 'be' where /k/ became /s/. Jassem (2012f) showed that inflectional 'plural and gender' markers as in *ox<u>en</u>, girl<u>s</u>, Paul<u>a</u>, Charl<u>otte</u>* formed true cognates in all. Similarly, Jassem (2013a) demonstrated the Arabic origins of English, German, and French derivational morphemes as in *act<u>ivity</u>, act<u>ivate</u>, <u>de</u>termine, whiten*, whose identical Arabic cognates are *ta* (e.g., *salaam<u>at(i)</u>* 'safety', *<u>ta</u>kallam* 'talk') and *an* (e.g., *ward<u>an</u>* 'bloom'). Jassem (2013b) dealt with the Arabic origins of negative particles and words like *in-/no, -less,* and *-mal* in English, French and so on. Jassem (2013c) outlined the English, German, and French cognates of Arabic back consonants such as /k/ in

church, kirk, ecclesiastical, which all come from Arabic *kanees(at)* where /k & n/ became /ch & r (l)/ each. Finally, Jassem (2013d) described the Arabic cognates and origins of English, German, and French *water* and *sea* terms like *water, hydro, aqua, sea, ocean, ship, navy*, all of which derive from Arabic sources.

In all the above studies, the lexical root theory was used as a theoretical framework, which is so called because of employing the lexical (consonantal) root in examining genetic relationships between words like the derivation of *overwritten* from *write* (or simply *wrt*). The main reason for that is because the consonantal root carries and determines the basic meaning of the word regardless of its affixation such as *over*write, writ*ing*. Historically speaking, classical Arabic dictionaries (e.g., Ibn Manzoor 1974, 2013) used consonantal roots in listing lexical entries, a practice first founded by Alkhaleel bin Ahmad Alfaraheedi (Jassem 2012e).

Simple in structure, the lexical root theory comprises a theoretical construct, hypothesis or principle and five practical procedures of analysis. The principle states that Arabic and English as well as the so-called Indo-European languages are not only genetically related but also are directly descended from one language, which may be Arabic in the end. In fact, it claims in its strongest version that they are all dialects of the same language. The applied procedures of analysis are (i) methodological, (ii) lexicological, (iii) linguistic, (iv) relational, and (v) comparative/historical. As all have been reasonably described in the above studies (Jassem 2012a-f, 2013a-d), a brief summary will suffice here.

First, the methodological procedure concerns data collection, selection, and statistical analysis. Apart from loan words, all language words, affixes, and phonemes are investigable, and not only the core vocabulary as is the common practice in the field (Crystal 2010; Pyles and Algeo 1993: 76-77; Crowley 1997: 88-90, 175-178). However, data selection is practically inevitable for which the most appropriate way would be to use semantic fields such as the present and the above topics. The ever-increasing accumulation of evidence from such findings will aid in formulating rules and laws of language change at a later stage (cf. Jassem 2012f, 2013a-d). The statistical analysis employs the percentage formula (see 2.2 below).

Secondly, the lexicological procedure is the initial step in the analysis. Words are analyzed by (i) deleting affixes (e.g., *overwritten* → *write*), (ii) using primarily consonantal roots (e.g., *write* → *wrt*), and (iii) search for correspondence in meaning on the basis of word etymologies and origins as a guide (e.g., Harper 2012), to be used with discretion, though.

Thirdly, the linguistic procedure handles the analysis of the phonetic, morphological, grammatical and semantic structure and differences between

words. The phonetic analysis examines sound changes within and across categories. In particular, consonants may change their place and manner of articulation as well as voicing. That is, changing place involves bilabial consonants ↔ labio-dental ↔ dental ↔ alveolar ↔ palatal ↔ velar ↔ uvular ↔ pharyngeal ↔ glottal (where ↔ signals change in both directions); manner relates to stops ↔ fricatives ↔ affricates ↔ nasals ↔ laterals ↔ approximants; and voice concerns voiced consonants ↔ voiceless. Similarly, vowels may change as well. The three basic long Arabic vowels /a: (aa), i: (ee), & u: (oo)/ (and their short versions besides the two diphthongs /ai (ay)/ and /au (aw)/ which are a kind of /i:/ and /u:/ respectively), may change according to (i) tongue part (e.g., front ↔ centre ↔ back), (ii) tongue height (e.g., high ↔ mid ↔ low), (iii) length (e.g., long ↔ short), and (iv) lip shape (e.g., round ↔ unround). These have additional allophones or variants which do not change meaning (see Jassem 2003: 98-113). Although English has a larger number of about 20 vowels, which vary from accent to accent (Roach 2009; Celce-Murcia et al 2010), they can still be treated within this framework. Furthermore, vowels are marginal in significance which may be totally ignored because the limited nature of the changes do not affect the final semantic result at all. In fact, the functions of vowels are phonetic like linking consonants to each other in speech and grammatical such as indicating tense, word class, and number (e.g., *sing*, *sang*, *sung*, *song*; *man/men*).

Sound changes results in processes like assimilation, dissimilation, deletion, merger, insertion, split, syllable loss, resyllabification, consonant cluster reduction or creation and so on. In addition, sound change may operate in a multi-directional, cyclic, and lexically-diffuse or irregular manner (see 4. below). The criterion in all the changes is naturalness and plausibility; for example, the change from /k/ (e.g., *kirk*, *ecclesiastic*), a voiceless velar stop, to /ch/ (e.g., *church*), a voiceless palatal affricate, is more natural than that to /s/, a voiceless alveolar fricative, as the first two are closer by place and manner (Jassem 2012b); the last is plausible, though (Jassem 2013c).

Some overlap exists between the morphological and grammatical analyses. The former examines the inflectional and derivational aspects of words in general (Jassem 2012f, 2013a-b); the latter handles grammatical classes, categories, and functions like pronouns, nouns, verbs, and case (Jassem 2012c-d). Since their influence on the basic meaning of the lexical root is marginal, they may be ignored altogether.

As for the semantic analysis, it looks at meaning relationships between words, including lexical stability, multiplicity, convergence, divergence, shift, split, change, and variability. Stability means that word meanings have remained constant. Multiplicity denotes that words might have two or more meanings. Convergence means two or more formally and semantically similar

Arabic words might have yielded the same cognate in English. Divergence signals that words became opposites or antonyms of one another. Shift indicates that words switched their sense within the same field. Lexical split means a word led to two different cognates. Change means a new meaning developed. Variability signals the presence of two or more variants for the same word.

Fourthly, the relational procedure accounts for the relationship between form and meaning from three perspectives: formal and semantic similarity (e.g., *three, third, tertiary* and Arabic *thalath* 'three' (Damascus Arabic *talaat* (see Jassem 2012a)), formal similarity and semantic difference (e.g., *ship* and *sheep* (see Jassem 2012b), and formal difference and semantic similarity (e.g., *quarter, quadrant, cadre* and Arabic *qeeraaT* '1/4' (Jassem 2012a)).

Finally, the comparative historical analysis compares every word in English in particular and German, French, Greek, and Latin in general with its Arabic counterpart phonetically, morphologically, and semantically on the basis of its history and development in English (e.g., Harper 2012; Pyles and Algeo 1993) and Arabic (e.g., Ibn Manzour 2013; Altha3aalibi 2011; Ibn Seedah 1996) besides the author's knowledge of both Arabic as a first language and English as a second language.

In this paper, the lexical root theory will be used in the investigation of the Arabic genetic origins and descent of *air* words in English besides German, French, Latin, and Greek. It has five sections: an introduction, research methods, results, a discussion, and a conclusion**.**

2. Research Methods

2.1 The Data

The data consists of about 80 *air* and 60 *fire* words. The terms have been selected on the basis of English thesauri and the author's knowledge of their frequency and use. They have been arranged alphabetically for quick reference together with brief linguistic notes in (3.) below. All etymological references in the text below are to Harper (2012).

The data is transcribed by using normal spelling. For exotic Arabic sounds, however, certain symbols were used, including /2 & 3/ for the voiceless and voiced pharyngeal fricatives respectively, capital letters for the emphatic counterparts of plain consonants /t, d, th, & s/, /kh & gh/ for the voiceless and voiced velar fricatives each, and /'/, the glottal stop (Jassem 2013c).

2.2 Data Analysis

The data will be analyzed theoretically and statistically. The above-surveyed lexical root theory is used as the theoretical framework. The statistical analysis employs the percentage formula, obtained by dividing the number of

cognates over the total number of investigated words multiplied by a 100. For example, suppose the total number of investigated words is 100, of which 95 are true cognates. Calculating the percentage of cognates is obtained thus: 95/100 = 0.95 X 100 = 95%. Finally, the results are checked against Cowley's (1997: 173, 182) formula to determine whether such words belong to the same language or to languages of the same family (for a survey, see Jassem 2012a-b).

3. Results

3.1 Air and Air-Related Terms

Air *(airy, aerobic, aeronaut)* via Latin and Greek *aer* and French *air(e)* from Arabic *air, iar,* or *uiar* 'air' (cf. a reversed Arabic *raiya* 'good wind', *haweer* '(sound of) air' in which /h, w, & a/ merged, *2arr* 'of air, heat, warmth', or a reversed *ree2* 'wind, air' where /2/ was deleted).

Amber from Arabic 'loan' *3anbar* 'good smell' via /3/-deletion and the change of /n/ to /m/.

Arid via Latin *arere, (aridus)* 'to be (dry)' from the same cognates for *air* above or from a reordered Arabic *jurd, ajrad* 'plantless' where /j & d/ merged into /d/ (see *dry* below).

Aroma *(aromatic)* 'sweet odour, spice, sweet herb' from Arabic *rai2aan* 'sweet scent, aromatic plant' where /2/ was deleted and /n/ turned into /m/, *rummaan* 'pomegranate' via llexical shift and /m & n/-merger, or a reversed *3abeer* 'good smell' in which /3/ was deleted while /b/ passed into /m/.

Ash from Arabic *3aj, 3ajaaj* 'dust' where /3/ was deleted and /j/ passed into /sh/.

Atmosphere (Greek *atmos* 'vapour, steam' and *spharia* 'ball, globe') from a reordered Arabic *sadeem* 'steam' where /d/ became /t/ and from *Sabboor* '(ball-shaped) heap' where /b/ became /f/, *kubba(t)* 'ball' where /k & t/ changed to /s & r/ each, or *safar, asfaar* (pl.) 'places'.

Avian *(aviation, avionics, aviary)* from Arabic *3aSfoor* 'bird' in which /3, S, & f/ merged into /v/ while /r/ turned into /n/ or from *hawaa'* 'air' where /h & w/ merged into /v/ with /n/ being an insertion.

Bask *'bathe'* from a reordered Arabic *saba2* 'bathe' where /2/ became /k/

Blast *(blaze, blizzard)* 'blow' from a reordered Arabic *lahab* where /h/ became /s/, *shalhoob* 'blaze' where /h & sh/ merged into /s/, or *balaj* 'light up, sound-break' where /j/ split into /s & t/.

Blaze *(blast)* from a reordered Arabic *lahab* 'blaze' where /h/ became /z/ or *shalhoob* 'blaze' where /h & sh/ merged into /s/.

Blizzard (*blaze*) from Arabic *bar(a)d* 'hail, cold' where /l/ split from /r/ while /z/ from /d/, *baleel* 'rain wind' where /l/ became /z/, or a reordered *hulaab* 'rain with strong wind' where /h/ changed to /z/ and /r/ split from /l/ (cf. *breeze* below and *blaze* above.)

Blow (Old English *blowan* 'breathe, inflate, kindle') from a reordered Arabic *lahab* 'flame, burn' where /h/ changed to /w/, *habba* 'to blow, to burn' via /l/-insertion, or *lab, lablab* 'of air, move'.

Breath(e) from Arabic *bard(at), baraad(at)* 'cool, cold air' where /d/ became /th/, *baari2* 'hot air' where /2/ changed to /th/, a reversed *tharb* 'bad stomach or mouth (air), good/bad speech', or a reordered *bakhar* 'mouth air' where /kh/ became /th/.

Breeze 'north-eastern good wind, fresh sea wind' from Arabic *baari2* 'hot air' where /2/ became /z/, a reordered *ba2ree* 'sea (wind)' where /2/ changed to /z/, *bard, baraad* 'cool, cold air' in which /d/ changed to /z/, a reversed *jarbiaa*' 'wind type' where /j/ became /z/ (cf. *blizzard* above), or a reversed *Saba* 'eastern wind' via /r/-insertion.

Climate *(clime, acclimatize)* via Greek and Latin *klima/clima* 'region, slope' of *klinein* 'to slope' from a reordered Arabic *makaan* 'place' where /n/ split into /l & m/, *iqleem* 'area' in which /q/ turned into /k/, or *2ana* 'bend' where /2/ changed to /k/ while /l/ split from /n/, *samaa*', *samawaat* (pl.) 'sky, go up' via lexical shift and the change of /s/ to /k/ and /l/-insertion.

Cyclone *(cycle)* from a reordered Arabic *lakka(t), malkook* (adj.) 'cycle, rounded object' where /k/ became /s/, *2alaq(at)* 'cycle, circle' in which /2 & q/ changed to /s & k/ each, *sakan* 'dust (wind)' where /l/ split from /n/, or *3ajal* 'cycle' where /3 & j/ became /s & k/ each.

Dew from Arabic *Tal* 'dew' in which /T & l/ turned into /d & w/ each or *Dabaab* 'fog' where /b & b/ merged into /w/ (cf. *dye* from Arabic *Tala* 'dye' and *die, death* from Arabic *Tawa* 'fold, die' or *Tu3aas* 'quick death' in which /T/ turned into /d/ while /3 & s/ merged into /th/.)

Dirt(y) from a reordered Arabic *qadhar* 'dirt' where /q & dh/ passed into /d & t/ each.

Dry *(drought)* from Arabic *Tari* 'soft, wet' via lexical divergence and the change of /T/ to /d/, *taariz* 'dry' where /z/ became /g/ (cf. *arid* above), a reversed *jurd, jarda* 'plantless' where /j/ changed to /g/, or a reordered *qafra, qaafirat* 'plantless, dry' where /q & f/ changed to /g & t/ each.

Dust from Arabic *Tais* 'dust' in which /t/ split into /d/ and /t/.

Ecology from Arabic *jaw* 'sky, air' in which /j/ became /k/.

Excrete *(excretion, secrete)* from Arabic *khara, kharia(t)* (n) 'excrete, stool' wherein /kh/ became /k/.

Faeces from Arabic *fasa, fusaa*' (n) or *faSS, fuSooS* (pl.) 'body wind'.

Fan (Old English *fannian* 'winnow grain'**)** from Arabic *fanna* 'of air, to move or turn', a reversed *naf(naf),* or *dharra* 'to winnow grain' where /dh & r/ changed to /f & n/ each.

Fart from Arabic *DaraT, faraT* 'fart' in which /D/ passed into /f/.

Fly *(flight)* from Arabic *farra* 'fly' in which /r/ became /l/ or *falakh* 'split, leave' where /kh/ changed to /g/ (cf. *flee* and *leave* from a 'reversed' Arabic *falla* 'leave').

Fragrance *(fragrant; flair)* 'an odour' via Latin *fragrare* 'emit a sweet smell' from a reordered Arabic *qirfa(t)* 'cinnamon, sweet smell' and related derivatives *qarfaan, qaraf* 'disgusted, disgust, animal-emitted mating scent', *zahran* 'to flower' where /z & h/ became /f & g/ each, *farfa2(an)* 'flourish' where /2/ changed to /g/, *far3an* 'of plants, to bud' or *farna2* 'of plants, to bloom' via the change of /2 & 3/ to /g/ and /r/-insertion.

Foul from Arabic *bawl* 'urine' (or a reversed *rauth* 'fowl') where /b & (th)/ turned into /f/ (cf. *fowl* from Arabic *3aSfoor* 'bird' in which /3, S & f/ merged into /f/ while /r/ became /l/ and *fool* from Arabic *habeel, habool* or *bahlool* 'fool, mad' where /h & b/ merged into /f/).

Gale 'storm at sea' from Arabic *qaali3* 'of wind, uprooting' in which /q/ became /g/, *Sirr/SarSar* 'very strong wind' where /S & r/ changed to /g & l/ each, or *i3Saar* 'storm' where /3 & S/ merged into /g/ while /r/ change to /l/.

Garbage from a reordered Arabic *ghubaar, ghabrat* 'dust' via /gh/-split into /g & j/.

Gas from Arabic *ghaaz* 'gas' in which /gh/ turned into /g/.

Gust from Arabic *qaaSif* 'breaking, striking' where /q & f/ passed into /g & t/ each, or *3aaSif(at)* 'storm' where /3 & f/ became /g & t/ each.

Haze *(hazy)* '(nautical) mist, fog, cloud' from Arabic *haij, hawjaa'* 'strong wind' where /j/ became /z/.

Heave from Arabic *nafakh* 'blow/breath' in which /n & f/ merged into /h/ while /kh/ turned into /v/, *lahath* 'heave, pant' where /l & th/ merged into /v/, onomatopoeic *heh/hef/fff* 'sound of breath/air' where /h/ change to /v/, or *hawa* 'air' where /w/ became /v/ (cf. *upheaval* from Arabic *hawa* 'fall down').

Heaven 'star' from Arabic *kawn* 'world, universe' where /k & w/ became /h & v/ each, or a reordered *janna(t/h)* 'Heaven' where /j & h/ became /h & v/ each (cf. *haven* from Arabic *'amaan* 'safety' where /' & m/ changed to /h & v/ each.

Hiss *(hush)* from Arabic *2asees, hasees* 'sound of trees' where /2 & h/ merged or *Sah* 'shut up, silence' in reverse.

Hurricane from Arabic *2areeq(an)* 'fire, burning' in which /2 & q/ turned into /h & k/ each.

Inflate *(inflation, deflate)* from a reordered Arabic *lafa2, inlafa2, iltafa2, laf2(at)* 'very cold (wind)' via /2/-deletion, *nafas, tanaffas* 'breath(e), deflate' where /s/ changed to /l/, or *tafal, intafal* 'spit' via reversal and lexical shift.

Inhalation *(exhalation)* from Arabic *3aleel* '(sound of) breathing' where /3/ passed into /h/, a reversed *lahath* 'pant' in which /th/ merged into /h/, or *hawa* 'air' where /w/ became /l/.

Inspiration *(expiration, respiration, perspiration)* from Arabic *zafeer* 'expiration' in which /f/ passed into /p/, a reordered *saraba* 'of water, penetrate', or *shirb* 'drink' in which /sh/ turned into /s/ (cf. *spirits* 'drinks' from Arabic *sharbat* 'drink' in which /sh/ became /s/).

Jet 'a stream of water, send, throw' from Arabic *shaTT* 'shore, coast' or *zatt* or *shaaT* 'throw' where /sh or z/ turned into /j/**.**

Meteor *(meteorite, meteoroid, meteorology)* 'rock falling to earth' from a reversed Arabic *rujm* 'stones' where /j/ became /t/ or *maTar* 'rain, object falling from above' (cf. Greek *meta* 'over, beyond, in the midst of, in common with, in quest of', German *mit* 'with', Old English *midh/mid* plus *aoros* 'lifted, hovering in air' from Arabic *ma3a* 'with' or *muntaSaf* 'middle' through the merger of /m & n/ and /S & f/ into /t/ and *air/iar* or *ree2* 'air' where /2/ became /s/).

Mist from a reordered Arabic *sadeem* 'steam' where /d/ turned into /t/, a reordered *qaatim* 'dark' where /q/ became /s/, or a reversed *3atm* 'darkness' where /3/ changed to /s/.

Musk from Arabic *misk* 'musk'.

Nature via Latin *natus* 'born', *nasci* 'to be born' from Arabic *nataja, naatij* 'of sheep, (to be) born' where /j/ became /s/, *faTara, fiTra(t)* 'create, creation, one's nature' where /f/ became /n/ or *nasha'a, nash'(at)* (n) 'stem from, grow (up), early rain' where /sh/ changed to /t/.

Nebula *(nebulous)* 'cloud' from a reordered Arabic *waabel* 'rain, cloud' via lexical shift and the change of /w/ to /n/ or *baleel (mablool)* 'dew-carrying wind' through /n/-split from /b/.

Odour *(deodorant)* from Arabic *3iTr, 3uToor* (pl.) 'perfume' via /3/-deletion and the change of /T/ to /d/.

Oscillate from Arabic *hazz(at)* 'oscillate' via /h/-deletion and /l/-insertion or *zalzal(at)* 'move, shake' where /z/ became /s/.

Perfume *(fume)* from Arabic *fa2am* 'of fire, black, smoke, char' via /2/-loss and lexical shift, *samoom* 'hot air' where /s/ became /f/, or a reversed *naf2a* 'sweet air' where /n & 2/ changed to /m & Ø/ each.

Plane from a reordered Arabic *nibaal* 'arrows' via reordering and lexical shift (cf. *plain, explain, plan* from Arabic *baiyen, baiyan* 'clear, clarify' and *bayaan* 'clarification, plan' via /l/-insertion).

Phenology via Latin and Greek *phaeno/phaino* of *phainein* 'to show' from Arabic *baana* 'appear' where /b/ became /f/.

Pneuma *(pneumonia, pneumatic)* 'a blowing wind, blast' via Greek *pnein* 'to blow, breathe' from Arabic *baleel* 'dew-carrying wind' where /l & l/ became

/n & m/ each or a reordered *nasma(t), naseem* 'breeze' where /s/ changed to /p/.

Puff from onomatopoeic Arabic *pif, fff* 'sound of blowing off at fire'.

Reek from Arabic *ree2* 'wind' where /2/ turned into /k/ (cf. *The mermaid reeks of fish*: *the* from Arabic *tha* 'this' (Jassem 2012c), *mermaid* from Arabic *marr* 'much water', *of* from *fee* 'in', *maid* from *amat* 'girl' where /t/ became /d/, *fish* from Arabic *samak* where /s & k/ merged into /sh/ while /m/ became /f/.)

Rot(ten) from Arabic *3aTeen* 'rotten' in which /3/ became /r/, *natn* 'rotten' in which /n/ turned into /r/, or *rath* 'of clothes, dirty, torn' in which /th/ turned into /t/.

Rubbish from a reversed Arabic *zibl* 'litter, waste, rubbish' in which /z & l/ turned into /sh & r/ respectively.

Scent via Latin *sentir* 'to feel, smell, perceive' from Arabic *shamm(at)* 'smell' where /sh & m/ became /s & n/ each or *Sannat* 'good smell (Libyan Arabic), body odour' (cf. *scenery* from Arabic *zain(at)* 'beautiful, decoration' in which /z & t/ passed into /s & r/ each; *obscene* from Arabic *shain* 'bad, obscene' via the change of /sh/ to /z/ and /b/-insertion).

Sigh from Arabic *shahaq* 'sigh' where /sh & h/ merged into /s/ while /q/ became /g/.

Siren from Arabic *qarn* 'horn, siren' in which /q/ turned into /s/ or *Soor* 'siren' where /n/ split from /r/ (cf. *crown***,** *coroner, coronation* from Arabic *qarn* above where /q/ became /k/ (Jassem 2012c)).

Smell from Arabic *shamm* 'smell' in which /sh/ turned into /s/ while /l/ split from /m/ (cf. *smile* from Arabic *Sammal* 'move lips' or *latham* 'kiss' via reordering, lexical shift, and changing /th/ to /s/).

Sparrow from Arabic *subbar* 'bird'.

Soar from Arabic *Taar* 'fly' where /T/ changed to /s/ (cf. *sore* from Arabic *Dur* 'hurt' where /D/ became /s/ or *jur2* 'wound' where /j & 2/ merged into /s/).

Squall 'sudden, violent gust of wind' from Arabic *Sar(Sar)* 'strong wind' where /S/ split into /s & k/ while /r/ became /l/ or a reordered *qaaSil* 'cutting, breaking'.

Stench *(stink)* from Arabic *zan(a)kh* 'stench, bad smell, dirty' in which /z/ split into /s & t/ while /kh/ turned into /k (ch)/ or a reordered *najaasat* 'dirt' where /j/ became /ch/.

Stiff from Arabic *jaaf, qaaf* 'dry' where /j & q/ split into /s & t/ or *qaasi* 'hard' where /q/ split into /s & t/ while /s/ became /f/.

Storm/Stream 'water course' from a reversed Arabic *majra* 'stream' where /j/ split into /s & t/, a reordered *jamr* 'pebbles, ember, spark' or *rajm* 'throwing stones' in both of which /j/ split into /s & t/, or from a reversed *maTar* 'rain' in which /T/ split into /s & t/.

Temperate (*temper* 'due proportion of elements' via Old English *temperian* 'to bring to a proper state, modify, restrain') from Arabic *Tabba3* 'of animals, to domesticate, restrain' where /m/ split from /b/ while /3/ became /r/ (cf. *temper* from Arabic *Tab3* 'one's nature' in which /T/ became /t/ while /3/ became /r/ or *Dameer* 'conscience' via lexical shift and /b/-split from /m/).

Temperature from a reordered Arabic *ramDaa* 'heat, warmth' in which /D/ passed into /t/ while /m/ split into /m & p/ or from *jamr(at)* 'fire, spark' in which /j/ turned into /t/ while /m/ split into /m & p/

Tempest from Arabic *deemat* 'rain' via the change of /d/ to /t/ and split of /s & p/ from /t & m/ each, *Tabee3a(t)* 'very cold, rainy and windy' where /m/ split from /b/ and /3/ became /s/, *Tumaas(at)* 'literally subside; a weather condition of invisibility' where /p/ split from /m/.

Tornado 'turn in Spanish' from a reordered Arabic *dawaraan* 'turning around' in which /d/ split into /t & d/ or *Tayaraan* 'flying' where /T/ split into /t & d/ (cf. *torrent* from (a) a reordered Arabic *maTrat, maaTira(t)* 'rain, raining' via turning /m/ into /n/ or (b) *jaariat, jarayaan* 'stream, flowing' by changing /j/ to /t/).

Twister *(twist)* from Arabic *Ta3aj, Ta3waja(t)* 'twisting' in which /3 & j/ changed to /w & s/ each.

Ventilate via Latin *ventus* 'wind, toss grain in the air to blow away the chaff' from Arabic *dhaariat* 'winnowing wind' where /dh & r/ became /v & n/ each, a reordered *nafath* 'breath, air' where /th/ became /t/, or *fatal, infatal* 'turn around' (cf. *vent (off)* from a reordered Arabic *naafidha(t)* 'vent, window' or *nafath* 'breath, air' (cf. *wind* below.)

Vibrate from a reordered Arabic *Darab* 'beat' where /D/ became /v/.

Wave from Arabic *hawa* 'air' in which /h & w/ became /w & v/ each.

Weather *(ether)* from Arabic *'atheer* 'air, ether' where /'/ turned into /w/.

Whistle from a reordered Arabic *Safeer(at)* 'whistle' where /f & r/ became /w & l/ each.

Whiz from Arabic *'azz* 'whiz' where /'/ became /w/.

Wind from a reversed Arabic *nada, nadwa(t)* 'dew' via lexical shift, a reordered *naf2a(t)* 'sweet air' where /f & 2/ merged into /w/ and /t/ changed to /d/, or *nafath* 'breath, air' where /f & th/ became w & d/ each.

Winnow 'Old English *windian* 'air in motion' from Arabic *hawaa'* 'air' where /h/ became /w/ with /n/ being an insertion (cf. *wind* above) or a reordered *nafnaf* or *fanfan* 'of air, to blow' where /f/ became /w/.

Wuthering 'Old English *hwidha* 'air, breeze' from a reordered Arabic *hawia(t)* 'airy' where /h & w/ merged into /w/ while /t/ became /th/, or *raff(at), rafraaf(at)* 'moving air' where /f/ became /w/.

Zephyr 'Greek *zephyros*, Old English *zefferus* 'west wind' from Arabic *Sabeer* 'type of rain or wind' via changing /S & b/ to /s & f/ each and lexical shift,

or *Safeer/shafeer* '(sound of) air, whistling', *safer, saafi* 'dust-carrying wind'.

To sum up, the total number of *air* words amounted to 80 or so, all of which have direct Arabic cognates. In other words, the percentage of cognates is 100%.

3.2 Fire Terms

Ablaze *(blaze)* from a reordered Arabic *lahab* 'flame, heat' where /h/ became /z/.

Battery 'beat, thrash' from a reordered Arabic *Darab* 'beat' in which /D/ changed to /t/.

Beam 'tree, shine' from Arabic *baan* 'appear, tree type' where /n/ became /m/ or *baheem* 'dark' via lexical shift and /h/-loss.

Blair from Arabic *bahar* 'dazzle' via /h/-loss and /l/-split from /r/.

Brilliant via Greek *beryl* 'precious stone' from a reordered Arabic *billawr(at)* 'glass, crystal' via lexical shift or *bahar, inbihaar* 'light, dazzle' via /h/-loss and /l/-split from /r/.

Bright *(brightness)* from Arabic *bareeq, baariqat* 'bright' where /q/ passed into /g/.

Burn from a reordered Arabic *naar/noor, neeraan* (pl.), *nawwar* (v.) 'fire, light' where /w/ passed into /b/ or a reversed *nabar* 'of fire, burn'.

Calorie 'heat' from Arabic *2arr(oor)* 'heat' where /2 & r/ became /k & l/.

Candle *(chandelier, kindle)* from Arabic *qandeel* 'light, lamp' via the change of /q/ to /k/ or /ch/.

Char from Arabic *sha22ar, shi2waar* 'char, smoke' where /2 & sh/ merged into /ch/.

Chimney via Latin *caminata* 'fireplace' and Greek *kaminos* 'furnace' from a reordered Arabic *dukhaan, dakhana(t)* 'smoke', *midkhana(t)* 'chimney' where /d & kh/ turned into /t & ch/, or *sakan, maskana(t)* 'fire ash, fire place' where /s & k/ merged into /ch/.

Coal from Arabic *ku2l* 'black (substance)' in which /2/ was dropped.

Combustion from Arabic *baSSat* 'spark'.

Cremation from a reordered Arabic *jamr(at), tajmeer* 'a piece of fire, burning red' in which /j/ turned into /k/.

Dazzle from a reordered Arabic *laTash* 'of light, to shine' in which /T & sh/ turned into /d & z/ each.

Electricity *(electronics)* via Latin and Greek *electrum/electron* 'substance attraction through rubbing' from Arabic *laqaT, luqTaan* 'catch', *3alaq, 3alqat* 'hang, catch fire' where /3 & q/ became /Ø & k/ each, or *2arqa(t)* 'burn, fire' via /2/-deletion and the change of /q/ to /k/.

Energy *(energetic)* via Latin and Greek *(en)ergon* 'work' from Arabic *2arak* 'move' where /2 & k/ changed to /Ø & g/ each or *naar, naari* (adj.) 'fire' where /y/ split into /y & j/.

Engine *(engineer, ingenious)* via Latin *ingenium* 'talent, inborn skill' from a reordered Arabic *Sana3, maSnoo3* 'design, make, something designed' in which /S & 3/ merged into /g/ or *jaan, mijan* 'striker, stick' where /m/ turned into /n/.

Fire *(fiery, inferno, infernal, infernality)* from Arabic *naar/noor, neeraan* (pl.) 'fire, light' where /n/ passed into /f/, *sa3eer* 'soaring fire' in which /s & 3/ merged into /f/, or *saqar* 'fire, hell' where /s & q/ merged into /f/, or *Silaa'* 'fire' where /S & l/ turned into /f & r/ each.

Flame *(inflame, inflammation, inflammatory)* from Arabic *fa2am* 'fire leftovers' through /2/-deletion and /l/-insertion or from *Diraam* 'flame' via the passage of /D & r/ into /f & l/ each.

Flash from a reordered Arabic *laSf* 'flash' where /S/ changed to /sh/.

Fume from Arabic *fa2am* 'fire black' via /2/-deletion, *ghaim, ghuyoom* (pl.) 'cloud' through the change of /gh/ to /f/, or *samoom* 'hot air' via the change /s/ to /f/.

Furnace from Arabic *furn, afraan & afrina(t)* (pl.) 'oven' where /t/ became /s/.

Glare from Arabic *jahar, jawhar* 'shine' via /h/-loss and /l/=split from /r/.

Gleam/glean from a reordered Arabic *jamr* 'ember, spark' or *qamar* 'moon' via the change of /j & q/ to /g/ and /r/ to /l/.

Glimmer from Arabic *jamr* 'ember, spark' or *qamar* 'moon, light' via /l/-insertion or split from /r/ and the change of /j & q/ to /g/.

Glimpse from Arabic *qabas* 'light, fire' via /m/-split from /b/ and /l-insertion..

Glisten from a reordered Arabic *laqas(at)* 'shine'.

Glow from Arabic *ghala* 'burn, boil' or *Salee* 'burning hot' in which /gh & S/ changed to /g/, a reversed *wahaj* 'glow' via the merger of /h & w/ and /l/-insertion, or a reversed *lajj* or *wajj* 'glow' in which /j/ turned into /g/.

Grill from Arabic *ghalee* 'boil', *ghill, aghlaal* (pl.) 'chain' where /gh/ split into /g & r/ or *qalee* 'fry' where /q/ turned into /g/ while /r/ split from /l/.

Hearth from Arabic *2arrat* 'hot place, hearth' in which /2 & t/ turned into /h & th/ respectively.

Heat, Hot from Arabic *2aad* 'sharp, hot' where /2 & d/ became /h & t/ each, *2arrat* 'hot place, hearth' in which /r & t/ merged into /t/, a reversed *daafee* 'warm' in which /d & f/ turned into /h & t/ respectively.

Hell 'low' from Arabic *saafil* 'low' where /s & f/ merged into /h/; *2arr* 'heat' in which /2 & r/ turned into /h & l/ each; *hala3* 'fear, fright' via /3/-loss; *hawl* 'fear, terror' (cf. *hill* from Arabic *3ula, 3aali* 'hill, high' in which /3/ passed into /h/); *hawiya(t)* 'hell, fall' where /w/ became /l/; *jahannam* 'hell' via the mergers of /j & h/ into /h/ and /n & m/ into /l/.

Ignite *(ignition)* via Latin *ignis, ignire* 'fire' from Arabic *sakan* 'fire' where /s & k/ merged into /g/, a reversed *sijjeen* 'fire' where /j/ became /g/, *zand* 'light a fire' where /z & d/ became /g & t/ each, *awqad, iqaad* (n) 'ignite' via /n/-insertion, or *qada2(aan), inqada2* 'to light a fire' where /q & 2/ became /g & s/ each.

Illuminate *(illumination, luminance, luminary)* from Arabic *lama3aan* 'illumination' via /3/-loss.

Incineration from Arabic *jamra(t), jammar, injamar* 'spark, burn red' where /m/ became /n/.

Lamp via Greek and Latin *lampas* from a reordered Arabic *miSbaa2* 'lamp' where /S & 2/ merged into /s/, which turned into /Ø/ later while /l/ split from /m/, a reversed Arabic *billawr* 'glass, lamp' where /l & r/ merged while /m/ split from /b/, or *lam3(at)* 'shine' where /3/ became /s (& then Ø)/ while /p/ split from /m/.

Lantern from Arabic *inaarat, noorat* 'lighting' in which /l/ split from /n/.

Lava from Arabic *laDha* 'molten heat' where /Dh/ became /v/.

Light *(alight, lightening) (German Licht)* from Arabic *3alaq, 3alqat* 'light a fire, burning' where /q & 3/ merged into /g/, a reordered *shu3lat* 'light, flame' in which /sh & 3/ merged into /g/, *lajj(at)* 'glow' in which /j/ turned into /g/, or a reordered *wadq* 'light, lightening' where /w & d/ became /l & t/.

Luminance from *illuminate* above.

Lustre *(lustrous, illustrate)* from Arabic *laSf(aan)* 'glow' via the change of /f/ to /t/ and /r/-insertion or *aSfar, Sufra(t)* 'yellow(ness)' via the change of /f/ to /t/, /l/-split from /r/, and lexical shift.

Negative from Arabic *naha* 'forbid' where /h/ became /g/ (Jassem 2013b) or *naqiSat* 'lacking, missing' where /q & S/ merged into /g/ .

Oil (*olive*) via French *huile* from Arabic *ihaala(t)* 'oil, fat' in which /h/ was lost or turned into /v/.

Oven from Arabic *furn* 'oven' in which /n/ split into /n & r/.

Petrol from Arabic *baSra(t)* 'soft rock' where /S/ became /t/, a reversed *turaab* 'dust', a reordered *balTa, balaaT* 'a stone' where /l/ changed to /r/, *barTeel* 'long rock' or *Dhirb* 'firm stone' where /Dh/ became /t/.

Paradise 'orchard in Greek' from a reordered Arabic *bustaan* 'orchard' where /t & n/ turned into /d & r/ each, *burood(at), barada* 'coolness' in which /s/ evolved from /t/ or *firdaus* 'paradise' in which /f/ became /p/.

Positive *(positron)* 'laid down' from Arabic *basaTa* 'lay down, stretch'.

Power from Arabic *murr, mirra(t)* 'bitter, strong, strength' where /m/ turned into /p/ or *ba's* 'power' in which /' & s/ passed into /w & r/ each.

Radiate *(radiation, irradiation, radiant, ray, radius)* via Latin *radius* 'ray, spoke, staff, rod' and *radiare* 'to beam, shine' from Arabic *zand, zind* 'fire, rod' where /z & n/ merged into /r/, a reversed Arabic *naar(at), nawwar* (v), *tanweer* (n) 'fire, light' or *noor, inarat* 'light' in which /t/ turned into /d/, *qada2* 'give light' via /q/ turning into /r/ and /2/-loss, or *rahaj* 'glow' where /h & j/ merged into /d/.

Ray *(rayon)* from Arabic *naar* 'fire' or *noor* 'light' where /n & r/ merged.

Shine from Arabic *sana* 'light' where /s/ changed to /sh/, a reversed *naaSi3* 'shine' via /3/-deletion, or *sha33* 'shine' in which /3/ turned into /n/.

Show from Arabic *sha33* 'shine' via /3/-loss, *shaaf* 'see' in which /f/ turned into /w/, or *zaha, zahoo* (n) 'beam, glow, happiness' where /z & h/ merged into /sh/.

Spark from a reordered Arabic *qabSa(t), qabas* 'spark' via the change of /q/ to /k/ and /r/-insertion or *barq* 'lightening' where /q/ split into /s & k/.

Smoke from a reordered Arabic *sa2am* 'blackness, smoke' or *sukhaam* 'smoke, black dirt' which /2 & kh/ developed into /k/ (cf. *scum*).

Scorch(ing) from Arabic *2aariq* 'burning' where /2/ became /s/ while /q/ split into /k/ and /ch/.

Soot from Arabic *sawaad, sood* 'blackness' where /d/ became /t/.

Stove *(staff)* 'heater' from Arabic *Soba(t)* 'stove' where /b/ became /v/ or *waqood* 'fuel, heat' via reversal and changing /q & d/ to /s & t/ each.

Sun *(solar)* from Arabic *shams* 'sun' via the merger of /s & sh/ into /s/ and the change of /m/ to /n/.

Theology *(deity, divine, divinity, day, deus, Zeus)* via Greek 'light' from Arabic *Daw'* 'light' via the passage of /D/ into /d or t/ and /w/ into /v/ (Jassem 2012b).

Thermo *(thermal)* 'heat' from Arabic *2aami* 'heat' where /2/ became /th/ and /r/ was inserted or *jamra* 'spark' via reversal and the change of /j/ to /th/ (cf. *warm* below).

Torch 'twisted thing' from Arabic *Ta3j* 'twist' where / 3 & j/ became /r & ch/ each, *Tarq* 'beat, beat' in which /q/ changed to /ch/, *siraaj* 'torch' in which /s/ became /t/, or a reordered *laTTaash* 'torch' where /l/ passed into /r/.

Warm *(warmth)* from Arabic *2aami, 2amaawat* 'hot, heat' via the change of /2/ to /w/ and /r/-insertion.

To sum up, the total number of *fire* words amounted to 55 or so, all of which have direct Arabic cognates. That is, the percentage of cognates is 100%.

4. Discussion

In this discussion, the relationship of the present study to the previous ones and the relevance of the lexical root theory to the data at hand will be highlighted. The results show that *air* and *fire* terms in Arabic and English are true cognates, whose differences are due to natural and plausible causes of linguistic (phonetic, morphological and semantic) change. Thus, the above results agree with Jassem's (2012a) investigation of numeral words, common religious terms (Jassem 2012b)**,** pronouns (Jassem 2012c), determiners (Jassem 2012d), verb *to be* forms (Jassem 2012e), inflectional 'gender and plurality' markers (2012f), derivational morphemes (2013a), negative particles (2013b), back consonants (2013c), and *water* and *sea* words (2013d) in English, German, French, Latin, Greek, and Arabic which were found to be not only genetically related but also rather dialects of the same language. In all, the percentage of shared vocabulary or forms between Arabic and English, for instance, was 100%, which means, according to Cowley's (1997: 172-173) classification, that they belong to the same language (i.e., dialects).

As a consequence, the lexical root theory has been found adequate for the present analysis of as it has been for all the previous cases. Thus, the main principle that states that Arabic, English, and so on are not only genetically related but also are dialects of the same language is verifiably sound and empirically true. Tracing back all *air* and *fire* words to true Arabic cognates successfully is no clearer proof.

In relation to the applied procedures, they operated neatly and smoothly. The lexicological procedure showed that the lexical root is an adequate, analytic tool for relating *air* and *fire* words in Arabic and English to each other by focusing on consonants and overlooking vowels because the former carry word meaning while the latter perform phonetic and morphological functions like grammatical classes (e.g., noun, verb) as has already been stated in section (1.) above (see Jassem 2012a-f, 2013a-d).

The etymology or historical origin and meaning of lexical items cannot be underestimated. In fact, tracing the Latin, Greek, French, and German roots of English words helps a lot in reaching good results as to their Arabic origins. For example, *air* comes from Latin and Greek *aer*, French *air(e)* (Harper 2012) whose Arabic cognate is *air, iar* 'air' or *raiya* in reverse (see 3.1 above).

The linguistic analysis, which comprised a few steps, showed how words can be genetically related to and derived from each other. First, the phonetic analysis had a central role in this regard owing to the huge changes affecting Arabic consonants especially not only in English and other European languages but also in mainstream Arabic varieties themselves (e.g., Jassem 1993, 1994a, 1994b). These changes included deletion, reversal, reordering, merger, split, insertion, mutation, shift, assimilation, dissimilation, palatalization,

spirantization (velar softening), duplication, syllable loss, resyllabification, consonant cluster reduction or creation and so on. Of all, the commonest are reversal, reordering, split, and merger, some of which may be due to Arabic script direction change from right to left at the hands of the Greeks. The results (3.) are replete with such examples. (For a detailed outline of the major sound changes in this area, see Jassem (2013c)).

It can also be clearly seen that sound change proceeds in three different courses (Jassem 2012a-f, 2013a-d). First, it may be multi-directional where a particular sound may change in different directions in different languages at the same time. For example, Arabic *ree2* 'wind' led to *reek* and *air* via reversal and the change of /2/ to /k/ in English, French, Latin, Greek, and so on (3.1 above). Secondly, it may be cyclic where more than one process may be involved in any given case. The changes from Arabic *hawaa'* 'air' to English *wave*, for example, included (i) turning /h/ into /w/ and (ii) /w/ into /v/, (iii) /'/-loss, and (iv) vowel shift. Finally, it may be lexical where words may be affected by the change in different ways- i.e., lexical diffusion (see Bergs and Brinton 2012; Jassem 1993, 1994a, 1994b for a survey). That is, a particular sound change may operate in some words, may vary in others, and may not operate at all in some others. For example, the different forms *wind, vent, ventilation* in English is a case in point (3.1 above). These three factors make Arabic, English, German, and French mutually unintelligible although the words have the same roots (Jassem 2012a-b).

All the sound changes above exhibit naturalness and plausibility; for example, the change of /2/, a voiceless pharyngeal fricative, in Arabic *ree2* 'wind, smell' to /k/, a voiceless velar stop in *reek*, is plausible which would be natural if it were for /h/ as both are closer by place and voice (cf. Jassem 2012b). Likewise, the change of /j/ in *hawj* 'wind' to /z/ in *haze* is plausible; the change of *nash'at* 'birth, early rain' or *nitaaj* 'birth, produce' to *nasci, nature* is natural and plausible . (For further detail, see Jassem (2012a-f, 2013a-b).)

Morphologically and grammatically, Jassem (2012f, 2013a) described the main inflectional and derivational affixes, most of which recur here to which the curious reader can be referred. In fact, all such differences do not alter the meaning of the root itself and so they can be ignored altogether outright.

Finally, the following lexical patterns recurred on the semantic plane, all of which were reported in Jassem (2012a-f, 2013a-d). Almost all the words exhibited lexical stability such as *air, wave, avian, breeze, fan, wind,* the cognates of all of which still retain the same or similar forms and meanings in both Arabic and English. Others showed lexical shift like *cyclone, cycle,* whose meaning shifted from Arabic *lakka(t)* or *3ajal* 'round-shaped object' to its

current meaning in English as 'wind type, cycle'; *twister* has the same story which moved from *Ta3jat, Ta3wajat* 'twist, bend' to *wind type*. Lexical split took place in words like *breath, breeze*, which came from Arabic *bard(at)* 'cold (air)' through different phonetic processes; *blaze, blast, blizzard* derive from Arabic *lahab* 'blaze' via different routes of sound change (3.1 above). Lexical convergence was very common as in *air* which might derive from Arabic *air, iar, uiar* 'air', *raiya* 'gentle wind' in reverse, or *ree2* 'wind' via reversal and /2/- loss (see 3. above). There are many more such examples in which convergence is due to the existence of several formally and semantically similar words in Arabic such as the words for *air* above. Lexical multiplicity occurred often in words like *wave* 'air; point to; reveal' which derive from Arabic *hawaa'* 'air', *wa2ee* 'revelation' where /2/ became /v/, and *awma'a* 'point to' where /m/ changed to /v/; *wind, wound* (v & n) are other examples. Like convergence, multiplicity is due to formal and semantic similarity between words. Finally, lexical variability was apparent in the presence of variant or alternative words for *air* and *fire* in both Arabic and English, which are utilized in different ways. For example, English *air, wind, wave, ventilation, breeze, reek, perfume, fan* are a few such examples (see 3.1 above); Arabic *fire* has ten such variants (Altha3alibi 2011) whereas *air* has countless (Ibn Seedah 1996).

Concerning the relational procedure, many of the above lexical cognates are both formally and semantically similar, for example, *air* and Arabic *air, iar* 'air' or *raiya* 'air' in reverse; *dew* and Arabic *Tal* 'dew' where /T & l/ became /d & w/ each. Some, however, are formally different but semantically similar such as *air* and *reek*, both of which might derive from Arabic *ree2* 'wind' or *2arr* 'hot air' via different sound changes where /2/ turned into /k/ in one but /Ø/ in the other. Others still are formally similar but semantically different such as *blaze, blast,* and *blizzard* in English, all of which derive from similar Arabic cognates: i.e., *lahab* 'blaze', *shalhoob* 'spark', and *balaj* 'sound-break' via different sound changes (see 3.1 above). Thus it can be seen that Arabic cognates can account for the formal similarities and/or differences between English words themselves.

In summary, the foregoing *air* and *fire* words in Arabic, English, German, French, Latin, and Greek are true cognates because they have similar forms and meanings. So it can be safely said that Arabic is their origin all for which Jassem (2012a-f, 2013a-b) offered some equally valid reasons such as lexical multiplicity and variety. It is true that English, German, French, and Latin too have lexical variety and multiplicity but not to the same extent as Arabic does. One has just to compare the number of *air* and *fire* words in English dictionaries

and thesauri and Arabic ones (e.g., Ibn Seedah 1975; Ibn Manzoor 2012; Altha3alibi 2011). In short, Arabic is comprehensive whereas English is selective.

6. Conclusion and Recommendations

The main findings of this paper can be summed up as follows.

i) The different 80 *air* and 55 *fire* words or so in English, German, French, Latin, Greek, and Arabic are true cognates due to their similarity in form and meaning.

ii) The different forms amongst such words within and across those languages resulted from natural and plausible phonological, morphological and/or lexical factors or conditions (cf. Jassem 2012f, 2013a-d). Reversal, reordering, split, and merger were very common sound changes.

iii) The main recurrent lexical patterns were stability, convergence, multiplicity, shift, and variability; convergence and multiplicity were rife due to formal and semantic similarity between Arabic words from which English words came.

iv) The multiplicity and variety in Arabic *air* and *fire* terms compared to those in English and European tongues point to their Arabic origin in essence.

To conclude, the lexical root theory has proven to be applicable to and adequate for the analysis of the close genetic relationships between Arabic, English, German, French, Latin, and Greek *air* and *fire* words. To support these findings, this work agrees with Jassem's (2012a-f, 2013a-d) calls for further research into all language levels, especially vocabulary. Moreover, the application of such findings to language teaching, lexicology and lexicography, translation, cultural (including anthropological and historical) awareness, understanding, and heritage is badly needed, which will be very useful, indeed, for the promotion of linguistic and cultural understanding, cooperation, acculturation, and peaceful coexistence amongst peoples of the world.

Acknowledgements

I wish to thank everyone who contributed to this research in any way worldwide. For my supportive and inspiring wife, Amandy M. Ibrahim, I remain indebted as ever.

==========

References

Algeo, J. (2010). *The origins and development of the English language*. (6th edn.). Wadsworth Cengage Learning.

Altha3aalibi, Abu ManSoor. 2011. *Fiqhu allughat wa asraar al3arabiyyat.* Ed. by Alayoobi, Dr. Yaseen. Beirut and Saida: Al-Maktabat Al-3aSriyyat.

Bergs, Alexander and Brinton, Laurel (eds). (2012). *Handbook of English historical linguistics*. Berlin: Walter de Gruyter.

Campbell, L. (2006). *Historical linguistics: An introduction.* (2nd edn). Cambridge, Mass.: The MIT Press.

Celce-Murcia, M., Brinton, D.M., Goodwin, J.M., & Griner, B. (2010). *Teaching pronunciation: A course book and reference guide*. (2nd edn). Cambridge: Cambridge University Press.

Crowley, T. (1997). *An Introduction to historical linguistics*. (3rd edn). Oxford: Oxford University Press.

Crystal, D. (2010). *The Cambridge encyclopedia of language*. (3rd ed). Cambridge: Cambridge University Press.

Harper, Douglas. (2012). *Online etymology dictionary*. Retrieved http://www.etymonline.com (January 10, 2013).

Ibn Manzoor, Abi Alfadl Almisri. (2013). *Lisan al3arab*. Beirut: Dar Sadir. Retrieved http://www.lisan.com (January 10, 2013).

Ibn Seedah, Ali bin Ismail. (1996). *AlmukhaSSaS*. Beirut: Daar I2ya Alturath Al3arabi and Muassasat Altareekh al3arabi.

Jassem, Zaidan Ali. (1993). *Dirasa fi 3ilmi allugha al-ijtima3i: Bahth lughawi Sauti ijtima3i fi allahajat al3arabia alshamia muqaranatan ma3a alingleeziyya wa ghairiha*. Kuala Lumpur: Pustaka Antara.

_____. (1994a). *Impact of the Arab-Israeli wars on language and social change in the Arab world: The case of Syrian Arabic.* Kuala Lumpur: Pustaka Antara.

_____. (1994b). *Lectures in English and Arabic sociolinguistics, 2 Vols*. Kuala Lumpur: Pustaka Antara.

_____. (2003). *An Arab student's guide to English pronunciation and reading*. Riyad: Alrushd Publishers.

_____. (2012a). The Arabic origins of numeral words in English and European languages. *International Journal of Linguistics 4 (3)*, 225-41. URL: http://dx.doi.org/10.5296/ijl.v4i3.1276

_____. (2012b). The Arabic origins of common religious terms in English: A lexical root theory approach. *International Journal of Applied Linguistics and English Literature 1 (6)*, 59-71. URL: http://dx.doi.org/10.7575/ijalel.v.1n.6p.59

_____. (2012c). The Arabic origins of English pronouns: A lexical root theory approach. *International Journal of Linguistics 4 (4)*, 83-103. URL: http://dx.doi.org/10.5296/ijl.v4i4.227.

_____. (2012d). The Arabic origins of determiners in English and European languages: A lexical root theory approach. *Language in India 12 (11)*, 323-359. URL: http://www.languageinindia.com.

_____. (2012e). The Arabic Origins of Verb "To Be" in English, German, and French: A Lexical Root Theory Approach. *International Journal of Applied Linguistics and English Literature 1 (7)*, 185-196. URL: http://dx.doi.org/10.7575/ijalel.v.1n.7p.185.

_____. (2012f). The Arabic origins of number and gender markers in English, German, French, and Latin: a lexical root theory approach. *Language in India 12 (12)*, 89-119. URL: http://www.languageinindia.com.

_____. (2013a). The Arabic origins of derivational morphemes in English, German, and French: A lexical root theory approach. *Language in India 13 (1)*, 48-72. URL: http://www.languageinindia.com.

_____. (2013b). The Arabic origins of negative particles in English, German, and French: A lexical root theory approach. *Language in India 13 (2)*, 234-48. URL: http://www.languageinindia.com.

_____. (2013c). The English, German, and French cognates of Arabic back consonants: A lexical root theory approach. *International Journal of English and Education 2 (2)*. URL: http://www.ijee.org.

_____. (2013d). The Arabic origins of "water and sea" terms in English, German, and French: A lexical root theory approach. *Language in India 13 (3)*: 126-151. URL: http://www.languageinindia.com.

Pyles, T. and J. Algeo. (1993). *The origins and development of the English language*. (4th edn). San Diego: HBJ.

==========

Zaidan Ali Jassem
Department of English Language and Translation
Qassim University
P.O.Box 6611, Buraidah, KSA
zajassems@gmail.com