The Arabic Origins of "Cognitive and Mental Terms" in English and European Languages: A Lexical Root Theory Approach

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Abstract: *This paper investigates the Arabic cognates or origins of cognitive and mental words in English, German, French, Latin, and Greek from a lexical root theory perspective. The data consists of 100 terms or so like think, recollect, remember, memorize, mind, mental, intellect, intelligent, cute, clever, cognition, assume, suppose, know, comprehend, deduce, infer, inform, wit, wise, reason, justify, and so on. The results demonstrate that all such words have true Arabic cognates, with the same or similar forms and meanings. Their different forms, however, are all shown to be due to natural and plausible causes of linguistic change. For example, English, French, and Latin inform(ation) comes from Arabic ma3rifa(tun) 'knowledge' via reordering and /3/-loss; English clever derives from Arabic filq 'clever, cleavage' via reordering, changing /q/ to /k/, and /r/-insertion; English and German think/denken obtains from Arabic fakkar, fikr (n) 'think' via reordering and turning /f/ into /th/; English know/ken comes from Arabic aiqan 'know', turning /q/ into /k/. As a consequence, the results indicate, contrary to Comparative Method claims, that Arabic, English and all (Indo-)European languages belong to the same language, let alone the same family. They, therefore, prove the adequacy of the lexical root theory according to which Arabic, English, German, French, Latin, and Greek are dialects of the same language with the first being the origin because of its phonetic complexity, huge lexical variety and multiplicity.*

Keywords: *Cognitive & mental words, Arabic, English, German, French, Latin, Greek, historical linguistics, lexical root theory*

1. Introduction

The lexical root theory (Jassem 2012a-f, 2013a-m) is so called for employing lexical roots in tracing genetic relationships between words in world languages. It was first proposed as a rejection of the classification of the comparative 'historical linguistics' method that Arabic belongs to a different language family from English, German, French, and all (Indo-)European languages in general (Bergs and Brinton 2012; Algeo 2010; Crystal 2010: 302; Campbell 2006: 190-191; Yule 2006; Crowley 1997: 22-25, 110-111; Pyles and Algeo 1993: 61-94). On the contrary, it firmly established the inextricably close, genetic relationship between Arabic and

such languages phonetically, morphologically, grammatically, and semantically or lexically (Jassem 2012a-f, 2013a-n).

Thus far twenty one studies have been conducted on all language levels. Lexically, thirteen studies successfully traced the Arabic origins of English, German, French, Latin, Greek and Sanskrit words in key semantic fields, including numeral words (Jassem 2012a), common religious terms (Jassem 2012b), water and sea terms (Jassem 2013d), air and fire terms (Jassem 2013e), celestial and terrestrial terms (Jassem 2013f), animal terms (Jassem (2013g), body part terms (Jassem 2013h), speech and writing terms (Jassem 2013i), time words (Jassem 2013j), family words (Jassem 2013k), cutting and breaking words (Jassem 2013m), movement and action words (Jassem 2013n), and perceptual and sensual words (Jassem 2013o). Morphologically, three studies established the Arabic origins of English, German, French, Latin, and Greek inflectional 'plural and gender' markers (Jassem 2012f), derivational morphemes (Jassem 2013a), and negative particles (Jassem 2013b). Grammatically, four papers described the Arabic origins of English, German, French, Latin, Greek, and Sanskrit personal pronouns (Jassem 2012c, 2013l), determiners (Jassem 2012d), and verb 'to be' forms (Jassem 2012e). Phonetically, Jassem (2013c) outlined the English, German, French, Latin, and Greek cognates of Arabic back consonants: viz., the glottals, pharyngeals, uvulars, and velars. Besides, the phonetic analysis is essential in all the papers, of course. In all such studies, Arabic and English words, for example, were true Arabic cognates with similar or identical forms and meanings.

The rest of this paper is organized into four sections: (ii) research methods, (iii) results, (iv) discussion, and (v) conclusion.

2. Research Methods

2.1 The Data

The data consists of a little over 100 *cognitive* and *mental* words such as *think, recollect, remember, memorize, mind, mental, intellect, intelligent, cute, clever, cognition, assume, suppose, know, comprehend, deduce, infer, inform, wit, wise, reason, justify,* and so on. Their selection has been based on the author's knowledge of their frequency and use and English dictionaries and thesauri. For quick reference, they will be arranged alphabetically together with brief linguistic comments in (3.) below.

Regarding etymological data for English and European languages, all references are for Harper (2012); for Arabic, they are for Altha3aalibi (2011: 179-80, 187-88), Ibn Seedah (1996: 3/15-65), and Ibn Manzoor (2013) in the main.

In transcribing the data, normal spelling is used for practical purposes; nevertheless, certain symbols were used for unique Arabic sounds, including /2 & 3/ for the voiceless and voiced pharyngeal fricatives respectively, /kh & gh/ for the voiceless and voiced velar fricatives

each, capital letters for the emphatic counterparts of plain consonants /t, d, dh, & s/, and /'/ for the glottal stop (Jassem 2013c).

The above *cognitive* and *mental* words can constitute fully natural texts on their own in today's English, e.g.,

Simon is intellectual: he thinks, conceives, remembers, recollects, reasons, justifies, suspects, doubts, and speculates. Carl is intelligent; he is cute, smart, wise, witty, and clever. Charlotte is psychic and mental; she is crazy, forgetful, and misses things. All are cognitive.

Every word in the above fully natural English text has a true Arabic cognate as will be shown in the analysis below!?

2.2 Data Analysis

2.2.1 Theoretical Framework: The Lexical Root Theory

The data will be analyzed by using the lexical root theory as a theoretical framework (Jassem 2012a-f, 2013a-o). It is so called because of employing the lexical (consonantal) root in examining genetic relationships between words such as the derivation of *observation* from *serve* (or simply *srv*). The major reason stems from the fact that the consonantal root carries and determines the basic meaning of the word irrespective of its affixation such as <u>observation</u>. Historically speaking, classical and modern Arabic dictionaries (e.g., Ibn Manzoor 1974, 2013) used consonantal roots in listing lexical entries, a practice first founded by Alkhaleel (Jassem 2012e), an 8th century linguist, lexicographer, musician, and mathematician.

The lexical root theory has a simple structure, which comprises a theoretical principle or hypothesis 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, whose differences are due to natural and plausible causes of linguistic change.

To empirically prove that, five applied procedures are used in data collection and analysis: namely, (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-n), a brief summary will suffice here.

To begin with, the methodological procedure concerns data collection, selection, and statistical analysis. Apart from loan words, *all* language words, affixes, and phonemes are

amenable to investigation, 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 since no single study can do that at one time, no matter how ambitious it might be. The most appropriate way for approaching that goal would be to use semantic fields such as the present and the above topics. Cumulative evidence from such findings will aid in formulating rules and laws of language change at a later stage (cf. Jassem 2012f, 2013a-f). 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., *explained → plain*), (ii) using primarily consonantal roots (e.g., *plain → pln*), 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. The final outcome yields Arabic *baien, baan* (v) 'clear, plain' via /l/-insertion or split from /n/ (Jassem 2013i).

Thirdly, the linguistic procedure handles the analysis of the phonetic, morphological, grammatical and semantic structures 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. At the level of place, bilabial consonants ↔ labio-dental ↔ dental ↔ alveolar ↔ palatal ↔ velar ↔ uvular ↔ pharyngeal ↔ glottal (where ↔ signals change in both directions); at the level of manner, stops ↔ fricatives ↔ affricates ↔ nasals ↔ laterals ↔ approximants; and at the level of voice, voiced consonants ↔ voiceless.

In similar fashion, vowels change as well. Although the number of vowels differ greatly within and between English (Roach 2008; Celce-Mercia et al 2010) and Arabic (Jassem 2012g, 1987, 1993), all can be reduced to three basic long 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). They may change according to modifications in (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). In fact, the vowels can be, more or less, treated like consonants where /i:/ is a kind of /j (y)/, /u:/ a kind of /w/, and /a:/ a kind of /h/ or vice versa. Their functions are mainly phonetic such as 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*). Thus their semantic weight is little, if not at all. For these reasons, vowels are marginal in significance which may be totally ignored in the analysis because the limited nature of the changes do not affect the final semantic result at all.

Sound changes result in natural and plausible 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 (for detail, see Jassem 2012a-f, 2013c).

Regarding the morphological and grammatical analyses, some overlap obtains. 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 determiners, pronouns, nouns, verbs, and case (Jassem 2012c-e). Since their influence on the basic meaning of the lexical root is marginal, they may also be ignored altogether.

As regards the semantic analysis, it examines meaning relationships between words, including lexical stability, multiplicity, convergence, divergence, shift, split, change, and variability. Stability means that word meanings have remained constant over time. 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 (for detail, see Jassem 2012a-f).

Fourthly, the relational procedure accounts for the relationship between form and meaning from three angles: formal and semantic similarity (e.g., *three, third, tertiary* and Arabic *thalath* 'three' (Damascus Arabic *talaat* (Jassem 2012a)), formal similarity and semantic difference (e.g., *ship* and *sheep* (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 an equal second language. Discretion should be exercised here due to uncertainties and inaccuracies, especially in Harper's work, though.

2.2.2 Statistical Analysis

The percentage formula is used for calculating the ratio of cognate words or shared vocabulary, which is 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 90 are true cognates. The percentage of cognates is calculated thus: $90/100 = 9 \times 100 = 90\%$. Finally, the results are checked against Cowley's (1997: 173, 182) formula to determine whether such words belong to the same language or family (for a survey, see Jassem 2012a-b).

3. Results

The main focus of the results will be on the Arabic lexical (consonantal) roots of English, German, French, Latin, and Greek words. This entails that affixation (prefixes, suffixes, and infixes) are generally excluded to save time, space, and effort here although all have true Arabic cognates (see Jassem 2012f, 2013a).

Accredit *(accreditation, credit, incredible, incredulous, incredulity, credo, creed, credential)* via Latin *creditum* 'a loan', *creditere* (v) 'to trust, entrust, believe' from Arabic *qurdat, qard* 'a loan'; /q & D/ became /k & d/**.**

Analyze *(analysis, analytic)* via Greek *analysis* of *ana* 'up, throughout' from Arabic *3an* 'on, about' via /3/-loss and *lysis* 'a loosening', *lyien* (v) 'unfasten' from Arabic *2alla, in2alla* 'unfasten' via reordering and /2/-mutation into /s (Ø)/.

Aware *(awareness)* from Arabic *3arifa, 'a3rif* 'know' where /3 & f/ merged into /w/; *ra'a, 'ara* 'see, be aware', turning /'/ into /w/; *warih* 'weak in mind' via /h/-loss and lexical shift; *arwa3* 'clever' via reordering and /3/-loss. See **wary**.

Assume *(assumption, presume)* from Arabic *za3am, az3um* 'assume' via /3/-loss.

Brainy from Arabic *nabeel* 'intelligent' via reordering and turning /l/ into /r/ or *areeb* 'clever' via reversal and inserting /n/ (see Jassem 2013h).

Clever *(cleave)* via Old English *cliver* 'claw, hand' from Arabic *khaalib, mikhlab* 'claw', turning /kh & b/ into /k & v/; *filq* 'clever, split' via reordering, changing /q/ to /k/, and /r/-insertion; or *khaalif* 'weak in mind' via lexical shift (divergence) and turning /kh/ into /k/.

Cognition *(cognizance, cognitive, incognito, recognition)* via Latin *cognitio, cognoscere* (v) 'get to know' as a compound of (i) *co- (com-)* 'together, completely' from Arabic *jamee3* 'together, all' where /j/ became /k/ and /3/ was lost and (ii) *gnoscere* 'to know' from Arabic *naqras, niqris* (n) 'investigate/judge matters; very intelligent, knowledgeable' via reordering; *nukr, nakar* (v) 'intelligence, understanding' via reordering and /k/-split into /g & s/; or *3aql* 'mind, brain, understanding' where /3, q, & l/ became /k, g, & n/.

Coma from Arabic *ghami* 'coma', turning /gh/ into /k/.

Commemorate *(memory, remember)* See **memory**.

Comprehend *(comprehension, comprehensive, comprehensible)* via Latin *comprehendere* 'take in the mind' as a compound of (i) *com-* 'together, completely' from Arabic *jamee3* 'together, all' where /j/ became /k/ and /3/ was lost, (ii) *pre-* 'before' from Arabic *qabl* 'before' via reordering and merging /q & l/ into /r/, and (iii) *hendere* 'take, hold' via Greek *khandanein* 'take in, hold' from Arabic *akhada, akhadhaan* 'take' via reordering and changing /kh & dh/ to /h & d/; *hanada* 'lie, shout like an owl, swear at, not to respond to an insult, to fall in

love with a woman due to her kindness' via lexical shift; or *dhihn* 'mind' via reordering and turning /dh/ into /d/.

Concept *(conceptuality)* See **conceive**.

Conceive *(conception, concept; conceit; receive; deceive)* via Latin *concipere* 'lit., take entirely; gather, seize, obtain, grasp with the mind, learn' as a combination of (i) *con (com)* 'all, together, with' from Arabic *jamee3* 'all' where /j & 3/ became /k & Ø/ or *ma3a* 'with' via reversal and turning /3/ into /k/ and (ii) *capere* 'take, grasp' from Arabic *qaDab/qabaD* 'seize' or *qabaSa/qabasa* 'seize, take' via /q & D (S)/-merger into /k/ or from *kasab* 'gain, take', merging /k & s/ into /k/. See **perceive**.

Conscious *(conscientious, conscience)* via Latin *conscius* 'knowing, aware', *conscire* (v) 'to be conscious, to know' as a combination of (i) *con (com)* 'all, together, with' from Arabic above and (ii) *scire* 'to know, separate, distinguish' from Arabic *sha3ar* 'feel, sense, split' via /3/-loss or *Saa2i* 'awake' via /S & 2/-merger into /s(h)/. See **science**.

Correct *(correction, right)* from Arabic *rasheed* 'correct, straight', changing /sh & d/ to /k & t/.

Crazy from Arabic *Sara3* 'epilepsy' via reordering and changing /S & 3/ into /k & z/; *rasee3* 'crazy' via reordering and turning /s & 3/ into /s & k/; *rasees(at), marsoos* (adj) 'madness' via reordering and turning /s/ into /k & z/; *su3r* 'madness' via /s & 3/-mutation into /k & z/; or *sarsi* 'clever' via lexical divergence and turning /s/ into /k/.

Credible *(credulous, incredible, incredulity)* See **accredit**.

Cute from Arabic *dhaki* 'clever' via reversal and replacing /dh/ by /t/, *kaiyes (kaiyet* as a variant*)* 'clever', or *ghaD* 'soft, fresh' by turning /gh & D/ into /k & t/.

Deductive *(deduction, deduce, deduct, conduce, reduce, produce, seduce, educate, duke)* via Latin *deducere* from (i) *de* 'down' from Arabic *ta2t* 'under' via /2/-loss and merging /t & t/ into /d/ (see Jassem 2013a-b) and *ducere* 'lead to' from Arabic *qaada, qiadat* (n) 'lead' via reordering and replacing /q/ by /s (k)/ (Jassem 2013i).

Dizzy from Arabic *daakh* 'to feel dizzy', turning /kh/ into /z/.

Dote *(dotard, dotage;* German *doten* 'to be foolish'*)* from Arabic *Dauta3* 'foolish' where /D & 3/ changed to /d & Ø/ or *Da3at* 'lowly, ignoble' via /3/-loss and changing /D/ to /d/.

Doubt *(dubious)* from Arabic *reeb(at)* 'doubt'; /r/ changed to /d/.

Dream from Arabic *darham* 'to open eyes with difficulty' via lexical shift and /h/-loss.

Entail *(entailment)* from Arabic *dhail* tail' via /dh/-mutation into /t/ or *tala* 'follow, read'.

Fact *(factual)* via Latin *factum* 'event', *facere* (v) 'to do' from Arabic *waqa3, waaqi3(at)* (n) 'happen, event' via /w & q/-mutation into /f & k/ and /3/-loss (cf. *fakkat* 'weak opinion' via lexical shift).

False *(falsity, falsify)* from Arabic *zaif* 'false' via reordering and /l/-insertion or *faaliS* 'amiss'.

Fancy *(fantasy, fantasize, fantastic)* via Greek *phantasia* 'image, perception, appearance', *phos* 'light' from Arabic *baSeeS* 'small light' where /b & S/ became /f & s/; *nafs* 'self', *nafsi* 'my self; I like/fancy' via reordering; *fatana* 'astonish, amaze, seduce', *faatin* (adj) 'beautiful, fantastic' via reordering and turning /t/ into /s/.

Figure out *(configuration)* from Arabic *fakkar, fikr(at)* (n) 'think' where /k/ changed to /g/; *raqam* 'number' via reversal and turning /q & m/ into /g & f/; or *Sawwar, Soora(t)* (n) 'picture, figure, imagine' via reordering and turning /S & w/ into /g & f/ (Jassem 2013i).

Fit from Arabic *Taif* 'madness' via reversal or *faTT* 'a fit'; /T/ became /t/.

Fool *(foolish, befool)* from Arabic *feel* 'foolish; elephant'.

Forget *(forgetful;* German *vergessen)* from Arabic *faqad* 'lose'; /q/ changed to /g/ and /r/ was inserted.

Genius *(ingenious, genuine)* via Latin *genus* 'race, birth' from Arabic *jins* 'race' or *jinni, injann* (v) 'hidden, intelligent, devil' via lexical shift (divergence). See **ingenious**.

Guilt *(guilty)* from Arabic *ghalaT* 'wrong', turning /gh & T/ into /g & t/. See **regret**.

Hallucinate *(hallucination)* via Latin *hallucinare* 'talk unreasonably' from Arabic *halas* 'laugh coldly, to be mindless' or *hallaS* 'talk falsely' where /S/ became /s/.

Humour from Arabic *mara2* 'humour' via reordering and /2/-mutation into /h/.

Hypocrite *(hypocrisy)* via Greek (i) *hypo* 'sub' (*hyper* 'big') from Arabic *kabeer* 'big' where /k/ became /h/ and /r/ was inserted (Jassem 2013c) and (ii) *krinein* 'sift, decide' from Arabic *razan* 'to reason' via reordering and turning /z/ into /k/; *kharaS* 'lie' where /kh & S/ changed to /h & t/; *qar(ee)Dh* 'to praise' or *qar(ee)D* 'to say poetry' via lexical divergence and substituting /k & t/ for /q & Dh (D)/.

Idea *(ideal, ideation, idealization)* via Greek and Latin *idea* 'the look of a thing, the reality', *idein* (v) 'see' from Arabic *aaya(t)* 'mark, idea, something wonderful to look at and think about' via /t/-mutation into /d/ or *aDaa'* 'light' via lexical shift and turning /D/ into /d/.

Idiot *(idiocy)* via Latin/Greek *idiota/idiotes* 'layman, ordinary/unskilled person' from Arabic *Dauta3* 'foolish' via /3/-loss and turning /D/ into /d/ or *Da3at* 'lowly' via /3/-loss and /D/-mutation into /d/. See **dote**.

Ignore *(ignorance)* via Latin *in* 'not' from Arabic *in* 'not' (Jassem 2013b) and *gnarus* 'aware, acquaintance', *noscere/gnoscere* (v) 'know' from Arabic *ankar, nukar* (adj.) 'deny, foolish' via lexical shift, reordering, and changing /k/ to /g/. See **cognition**.

Illusion *(illusive, elude, allude, ludicrous)* via Latin *illudere* 'mock at, lit. play with' of (i) *in* 'at, upon' from Arabic *min* 'from' via lexical shift and /m & n/-merger and (ii) *ludere* 'mock at, play with' from Arabic *Dalla(la)* 'to mislead' or *dalla* 'lead to, refer to' via reversal; or *laadha* 'hide, keep aside', turning /dh/ into /d/.

Imagination *(image)* from Arabic *seema* 'image, mark' via reversal and turning /s/ into /j/ or *wajh* 'face' via lexical shift, turning /w/ into /m/, and merging /h/ into /j/.

Infatuate *(infatuation)* Arabic *fatan, infatan* 'infatuate'.

Inform *(information, informant, informatics)* from Arabic *ma3roof, ma3rifat* (n) 'known, knowledge' via reversal and /3/-loss (cf. *form, formality; uniform; reform, reformation; deform, deformity* from Arabic *rasm* 'drawing' via reordering and turning /s/ into /f/ or *simaal* 'old clothes' via reordering and passing /s & l/ into /f & r/ respectively).

Infer *(inference)* via Latin *inferre* 'deduce, bring into' of (i) *in* 'into' from Arabic above and (ii) *ferre* 'carry, bear' from Arabic *wazara* 'carry' via /w & z/-merger into /f/, *Dhahar* 'say, interpret, understand; back, ride' where /Dh & h/ merged into /f/, *zawara, inzawar* 'look askew' via lexical shift and merging /z & w/ into /f/, or *fassara* 'explain', merging /f & s/.

Ingenious *(genius)* via Latin *ingniosu* 'full of intellect', *ingenium* (v) 'inborn qualities'**,** *genus* 'race, birth' from Arabic *jins* 'race', *ingignere* 'produce' from Arabic *jana* 'to harvest, produce' via /j/-split into /g & g/; or *jinni, injann* (v) 'hidden, intelligent, devil' via lexical shift. See **genius**.

Insipid *(insipidity)* from Arabic *sabah(at)* 'weak mindedness, folly' via /h/-loss or *safeeh, safah(at)* (n) 'silly', merging /f & h/ into /p/.

Intellect *(intellectual, intelligibility, lecture)* via Latin *intelligere* (v) 'understand' as a compound of (i) *inter* 'between' and (ii) *legere* 'choose, collect, read' from Arabic *qara'a* 'collect, read' via reversal and turning /q & r/ into /g & l/ (Jassem 2013i), *3aqal, 3aql* (n) 'understand, mind' via reordering, /3/-loss, and changing /q/ to /g/, or *laqina* 'understand' via lexical shift and turning /q & n/ into /g & r/. See **intelligence**.

Intelligence *(intelligentsia, intelligibility, intellect, lecture)* via Latin *intelligentia* 'understanding, art, skill, taste', *intelligere* (v) 'understand' from the Arabic for **intellect**.

Intelligible *(intelligibility, intelligence; lecture)* via Latin *intelligere* 'understand' from the Arabic for **intellect**.

Justify *(just, justice, justification)* via Latin *iustus* 'just, fair' from Arabic *qaasiT, qisT(aas)* (n) 'just, fair'; /q/ became /j/.

Know *(knowledge, acknowledge, ken)* from Arabic *aiqan* 'know for sure', turning /q/ into /k/; *naqaha* 'know' via reordering and /h/-loss; or *kanaha/kahana* 'know, foretell' via /h/-loss.

Learn (German *lernen*) from Arabic *3alima* 'learn, know' via reordering and turning /3 & m/ into /r & n/ or *laqina*, *laqqana* (vt.) 'understand, lealrn, teach' via lexical shift and turning /q/ into r/.

Lie *(belie)* via Old English *l(e/i)gan* 'deceive, belie, betray' and German *lügen* from Arabic *ghaala, ghail* 'deceive' via reversal and turning /gh/ into /g/.

Mad *(madness)* from Arabic *mauta(t)* 'madness'; /t/ became /d/.

Maniac *(mania)* from Arabic *majnoon* 'mad' via reordering and turning /j/ into /k (Ø)/.

Memory *(memorize, memorial, memorandaum, commemorate, remember)* via Latin *memoria* 'mind, intelligence, skill', *memorare* (v) 'remember' from Arabic *mar'a* 'something seen', *ra'a* (v) 'see, understand', *ra'i* (n) 'mind, opinion' via /m/-split; *maara* 'argue' via lexical shift; *mahaara(t), maahir* (adj) 'cleverness, dexterity, skill' via /h/-mutation into /m/; *mirra(t), miraar* (pl.) 'strong mind/opinion, strength', *mareer* (also *marmarees*, *mamroor*) (adj.) 'very wise, mad' via /m/-duplication.

Miss *(amiss)* from Arabic *nasia, nisian* (n) 'forget'; /n/ became /m/.

Mental *(mentality)* See **Mind**.

Mind *(mental)* via Old English *gemynd* 'mind' and Latin *mens* 'mind' from Arabic *dimaagh* 'mind, brain' via reversal, turning /gh/ into /g (Ø)/, and /n/-split from /m/; *manza3a(t)* 'opinion, thinking' via /3/-loss.

Nod from Arabic *naada, nawd* 'nod, move head in sleepiness'.

Oblivion *(oblivious)* via Latin *oblevis*, composed of (i) *ob* 'over' from Arabic *bi* 'with, in' and (ii) *levis* 'smooth' from Arabic *sahl* 'easy, smooth' via reversal and changing /h/ to /v/; or *ablah, balahaan* (n) 'foolish' where /h/ became /v/.

Omniscient *(omniscience)* via Latin (i) *omni* 'all' from Arabic *3umoom* 'all' via /3/-loss and replacing /m/ by n/ and (ii) *scientia* 'knowledge' from the Arabic for **science**. (Cf. Arabic *nasia, nisian/mansi* (n) 'forget' via lexical divergence and passing /n/ into /m/.)

Opinion *(opine)* from Arabic *bayaan, abaan* (v) 'clarification' or *3abbar* 'express' via /3/-loss and turning /r/ into /n/.

Perceive *(perception)* via Latin *percipere* 'lit., take entirely; gather, seize, obtain, grasp with the mind, learn' as a compound of (i) *per* 'thoroughly' from Arabic *bi* 'with, in' via /r/-insertion and (ii) *capere* 'take, grasp' from Arabic *qaDab/qabaD* 'seize', *qabaSa/qabasa* 'seize, take', merging /q & D (S)/ into /k/; *kasaba* 'gain, obtain', merging /k & s/; *jaaba* 'bring' via lexical shift and changing /j/ to /k/; or *shabbaha* 'see, liken', turning /sh/ into /k/ and merging /b & h/ into /v/ (Jassem 2013o). See **conceive**.

Psyche *(psychic)* via Latin *psyche* and Greek *psykhe* 'soul, mind, spirit, life, breath', *psykhein* (v) 'breathe, cool' from Arabic *naf(a)s* 'breath, soul, self' or *nafakh* 'blow, breathe' via reordering and turning /n, f, & s (kh)/ into /s, p, & k/; or *basheesh* 'face; pleasantness, happiness, gentility' via lexical shift and replacing /sh & sh/ by /s & k/ (cf. *faskh* 'a feeble-bodied and minded person' via lexical shift and turning /f & kh/ into /s & k/.)

Reason *(reasonable)* from Arabic *razaan(at)* or *raSaana(t)* 'good opinion, reason'.

Recognition *(recognize, cognitive)* See **cognition**.

Recollect *(recollection, intellectual, intelligent)* via Latin *recolligere* 'gather together', composed of (i) *re-* 'again' from Arabic *radda* 'again, return' via /r & d/-merger, (ii) *col- (com-),* and (iii) *legere* 'choose, collect, read' from Arabic under **intelligence** above.

Regret from Arabic *ghalaT* 'wrong, fault, rgret', turning /gh, l, & T/ into /g, r, & t/. See **guilt**.

Remember *(memory, commemorate)* See **memory**.

Reminisce *(reminiscence; miss)* via Latin *reminisci* 'remember', *mens* (n) 'mind' from Arabic *nasia, mansi* (adj.), *nisian* (n) 'forget' via lexical shift (divergence). See **mind**.

Right *(correct)* via Old English *riht* 'just, good, fair', German *recht*, Latin *rectus* 'right, straight', Greek *orektos* 'upright' from Arabic *rasheed* 'correct, straight', replacing /sh & d/ by /g (k) & t/ or from *raa'iq(at)* 'clear, pure, happy, healthy', or *raaqi(at)* 'high, correct'. See **correct**.

Sage from Arabic *sheikh* 'sage, wise, old man'; /sh & kh/ turned into /s & g/.

Schizophrenic via Latin/German *schizophreni(a/e)* 'a splitting of the mind' via Greek (i) *skhizein* 'split' from Arabic *shaqaSa* 'cut' where /sh, q, & S)/ turned into /s, k, & s/ and (ii) *phren*

'heart, mind, diaphragm' from Arabic *nafs* 'self, mind, eye' via reversal and turning /s/ into /r/ or *nafar* 'person' via reordering and lexical shift.

Science *(scientific)* via Latin *scientia* 'knowledge, expertness', *sciens (*gen. *scientis)* 'intelligent, skilled', *scire* (v) 'know, separate, distinguish', *scindere* 'cut, divide' from Arabic *shara2a* 'cut, divide, explain' or *sha3ara* 'feel, split' via /2 (3)/-loss; *sanakh* 'study science' or *nasakh* 'write, copy' via reordering and turning /kh/ into /s/.

Seizure from Arabic *rasees(at)* 'seizure, madness' via reversal; *Sara3* 'epilepsy' via reordering and changing /S & 3/ to /s & z/; or *su3r* 'madness', turning /3/ into /z/. See **crazy**.

Senile *(senility, senior)* via Latin *senex* 'old man' from Arabic *sinn, musin* (adj.) 'age, old man' via lexical shift; or *majj* 'old man' via reversal and turning /m & j/ into /s & n/.

Shrewd from Arabic *shaaTir* 'clever' via reordering and turning /T/ into /d/ or *shaarid, shorood* (n) 'distracted' via lexical shift.

Skill from Arabic *2eela(t)* 'skill, cleverness', splitting /2/ into /sk/.

Smart from Arabic *samt/zameet* 'clever' via /r/-insertion; *amzaT* 'thin, slim' via reordering and changing /z & T/ to /s & t/; *zamraT* 'thin, beautiful' where /z & T/ became /s & t/; *maraT* 'beautify' via /T/-split into /s & t/; or *'amrad* 'hairless (male), beautiful', turning /' & d/ into /s & t/.

Soul from Arabic *zawl* 'person, intelligent' via lexical shift and turning /z/ into /s/ or *2aal* 'nature, condition, status' where /2/ became /s/.

Solve *(solution, dissolve, resolve)* from Arabic *saal, suyoola(t)* (n) 'flow, melt' or *2al(2al)* 'solve, loosen, dissolve', turning /2 & 2/ into /s & v/ (cf. *Salb* 'hard, solid' via lexical divergence and /b/-mutation into /v/).

Speculate *(speculation, specs, inspect)* via Latin *spicere* 'look' from Arabic *shaba2a, shab2at* (n) 'see' or *shabbaha* 'to see, liken', substituting /s & k/ for /sh & 2 (h)/ (Jassem 2013o).

Spirit *(spirituality)* via Latin *spiritus* 'soul, courage, vigour, breath'*, spirare* 'to breathe' from Arabic *zafrat, zafar* (v) 'expiration, breathing out', turning /z & f/ into /s & p/ or *sharbat* 'a drink' via /sh/-mutation into /k/ and lexical shift.

Stupid *(stupidity, stupor)* via Latin *stupidus* 'struck senseless, amazed', *stupere* (v) from Arabic *sabah* 'stupidity' via /t/-split from /s/ and /h/-loss or *dub* 'stupid, a bear' via reversal and /d/-split into /st/.

Suppose *(supposition, propose)* via French and Latin *supponere* of *sub* 'under' + *ponere* 'put, place' from Arabic *2asiba* 'think, suppose' via reordering and /2 & s/-merger into /s/.

Suspect *(suspicion, inspect, respect, expect)* See *suspicious*.

Suspicious *(suspect, inspect)* via Latin *suspere* 'look into', composed of (i) *sub* 'up to' from Arabic *3ub(aab)* 'up, high' via /3/-mutation into /s/ and (ii) *spicere* 'look' from the Arabic for **speculate** (Jassem 2013o).

Swoon from Arabic *nu3aas* 'sleepiness' via reordering and /3/-loss (Jassem 2013o) or *sina(t)/wasan* 'sleepiness'.

Terrific *(terror, terrible, terrorism)* from Arabic *Dhareef/Tareef* 'nice, clever', turning /Dh (T)/ into /t/ or *dhu3r* 'terror, fear', replacing /dh & 3/ by /t & r/.

Think *(thought*, German *denken)* from Arabic *fakkar, fikr(at)/tafkeer* (n) 'think' via reordering and turning /f & r/ into /th & n/ or *Dhanna* 'think' in which /Dh/ split into /th & k/ (cf. *Dhanna-k* 'think-you').

True *(truth)* via German *treu, gatrium;* Old Norse *tryggr* 'faithful, trusting' from Arabic *Saadiq* 'faithful, true, trusting', merging /S & d/ into /t/ and replacing /q/ by /r/ or *tarawi* 'thoughtfulness' via lexical shift.

Trust via German *trost* 'comfort, consolation' and Old Norse *trausti* 'agreement, help' from Arabic *tarDiat* '(bringing into) agreement, comfort', turning /t/ into /s/. See **true**.

Understand as a compound of (i) *under* 'beneath, between' from Arabic *adna* 'lower' or *athna'* 'between' and (ii) *stand* from Arabic *sanada, istanda* 'stand', or *nadis/naTis* 'witty' via reordering and inserting /t/ (Jassem 2013o)

Verity *(very, verify, veritable)* via Latin *verita* 'truth', *verax, verus* 'very, true' from Arabic *firiat* 'falsehood' via lexical shift (divergence) (cf. *warah* 'knowledge, experience' where /w/ became /v/ and /h/ was lost.)

Very *(verify, verity, veritable)* via Latin *verax, verus* 'very, true' *verita* 'truth' and French *verai* 'true' from Arabic *firiat, faria* (adj.) 'falsehood' via lexical shift (divergence).

View *(review, video, vision; evident, evidence)* via Latin *videre* 'to see' from Arabic Arabic *waDa2* 'see' via /2/-loss and turning /w/ into /v/. See **vision**.

Vision *(visible, visibility, video, supervise, revise, review, visit)* via Latin *visio(nem)* 'sight' of *videre/visere* 'to see' from Arabic *waDa2a* 'see', turning /w & D/ into /v & d (s)/ and deleting /2/ and/or *baSar* 'sight' where /b/ became /v/ (Jassem 2013o).

Wary *(wariness)* from Arabic *wari3* 'fearful' via /3/-loss.

Whim *(whimsical)* from Arabic Arabic *wahm* 'whim, illusion'.

Wit *(witty, witticism;* German *Witz)* via Old Enlish *witan* 'know, see' and German *wissen* 'know' from Arabic *faTeen* 'clever, witty, remembering' where /f & T/ became /w & t/ while /n/ merged into /t/; *daahiat* 'very clever, intelligent' via reordering and turning /h/ into /w/.

Wise *(wisdom,* German *weise)* via Old Enlish *witan* 'know, see' and German *wissen* 'know' from Arabic *2akeem. 2ikmat* (n) 'wise' where /2 & k/ changed to /w & s/; *2aSeef* 'wise, clever', turning /2/ into /w/ and merging /S & f/ into /s/; or *wassaa3* 'intelligent, broad-minded' via /3/-loss.

Wonder *(wonderful)* from Arabic *naDhar, unDhur* 'see, look', changing /Dh/ to /d/.

Wrong 'twisted, crooked in Old English' from Arabic *3arwaj(an)* 'twist, bend' where /3 & j/ changed to /w & g/; from *ranaq, rawnaq* 'mixed up, confused, unclear (water)' via reordering and turning /q/ into /q/; or *nakeer, munkar* (adj.) 'unknown, unaccepted)' via reordering and turning /m & k/ into /w & g/.

To sum, the total number of *cognitive and mental* words amounted to 100 or so, all of which have true Arabic cognates: i.e., 100%.

4. Discussion

The above results indicate clearly that *cognitive* and *mental* words in Arabic, English, German, French, Latin, and Greek are true cognates for manifesting similar or identical forms and meanings. Their differences, however, are due to natural and plausible causes of phonetic, morphological and semantic change. Statistically speaking, the percentage of shared vocabulary between Arabic and English here was 100%, which exceeds Cowley's (1997: 172-173) classification according to which an 80% ratio indicates membership to the same language- i.e., dialects.

In light of the above, the results agree with all the findings of previous studies (Jassem 2012a-f, 2013a-n) in which English, German, French, Latin, Greek, Sanskrit and Arabic were all found to be rather dialects of the same language, let alone the same family. In addition, the results lend further support to the adequacy of the lexical root theory for the current analysis. The main principle which states that Arabic, English, German, French, and so on are not only genetically related but also are dialects of the same language is, therefore, verifiably sound theoretically and true empirically. The analytic procedures worked out smoothly on all levels.

On the semantic level, for example, lexical stability is the general pattern where words maintained their basic meanings across languages. However, the recurrence of lexical convergence in the data is due to formal and semantic similarity between Arabic words, on the one hand, and their English cognates, on the other. For example, *clever* derives from formally and semantically similar Arabic words- namely, *khaalib, mikhlab* 'claw' by turning /kh & b/ into

/k & v/, *filq* 'clever; split' via reordering and turning /q/ into /k/, or *khaalif* 'weak in opinion' via lexical divergence and replacing /kh/ by /k/, and inserting /r/ in all. Similarly, semantic multiplicity stems from the same reasons where some English words may have more than one meaning, which may have more than one likely Arabic cognate; for instance, *miss* has two meanings (i.e., forget/lose, young girl), both of which again derive from formally and semantically similar Arabic words- namely, *nasia* 'forget' where /m/ became /n/ and/or *aanisa(t), nisaa'* (pl.) 'Miss, girl, woman' via /n/-mutation into /m/. As can be seen, all are similar in form and meaning.

Now what does all that signify? Two things are worth noting at least. Firstly, it implies that Arabic and English are dialects of the same language for having the same words with similar or identical forms and meanings (cognates), with Arabic being the source or parent language because of its phonetic complexity and lexical multiplicity and variety (for detail, see Jassem (2012a-f, 2013a-i). For example, the short exemplary *cognitive* and *mental* text in 2.1 above contains some very common words in the field, every single word of which has a true Arabic cognate, which can be checked in the results above and/or the relevant previous studies like Jassem (2012c) for pronouns, (2012d) for determiners, (2012e) for verb 'to be', (2012f) for inflectional morphemes, (2013a) for derivational morphemes, and (2013l-o) for names.

Secondly, it has interesting implications for general linguistic theory and language origin (Jassem 2013l). On the one hand, it implies that the so-called proto-Indo-European language hypothesis is baselessly fictitious which should be rejected outright because all English words, for instance, are traceable to Arabic sources. On the other hand, it implies, on a larger scale, that all human languages are related to one another, which in the end descended from a single 'perfect' source, which emerged suddenly in perfect fashion. However, it became simpler and simpler over time like English words being simpler than their Arabic cognates phonetically, morphologically, and semantically; the same applies to today's Arabic words also, which are simpler than Classical Arabic ones. Besides, the change or simplification took its course and proceeded very, very slowly over time, spanning thousands and thousands of years which nobody can exactly determine. It is worth mentioning here that Pagel et al (2013) found that some 27 common English core words (e.g., pronouns) changed or simplified little in the last 15, 000.00 years!?

One might ask whether that old, original, fully-fledged, perfect source, technically known as proto-language (Harper 2012) or proto-world-language (Ruhlen 1987, 1994) be reconstructed? In other words, how feasible is it to reconstruct that? Very much so, indeed. How? That can be successfully achieved on the basis of (an) ancient world language(s), which has survived into modern ones, though in different forms. This is because all human languages are variable developments of that old, sudden, perfect source. Of all, Arabic is perhaps the greatest survivor, which may be the best possible link to that old perfect language on which analysis should focus. Indeed, Arabic can be said to be a great, great living linguistic inheritor and survivor, which

could have maintained almost all the features of that original, perfect language. Pronouns in world languages is a case in point, which has provided some initial clues to that (Jassem 2012d, 2013l) but more evidence is awaiting further research into the subject.

5. Conclusion and Recommendations

In summary, the main results of the study are as follows:

i)   The lexical root theory has been adequate for the analysis of the close genetic relationships between *cognitive* and *mental* words in Arabic, English, German, French, Latin, and Greek according to which they are all dialects of the same language.

ii)   The 100 *cognitive* and *mental* words or so in English, German, French, Latin, Greek, and Arabic are true cognates with the same or similar forms and meanings. Their differences are due to natural and plausible phonetic, morphological, and lexical factors of change, however (cf. Jassem 2012a-f, 2013a-n).

iii)   The main phonetic changes included substitution, reversal, reordering, split, and merger; the recurrent lexical patterns were stability, convergence, multiplicity, shift, split, and variability; the abundance of convergence and multiplicity stem from the formal and semantic similarities between Arabic words from which English and European words emanated in the first place.

iii)   The phonetic complexity, huge lexical variety and multiplicity of Arabic *cognitive* and *mental* words compared to those in English and European languages point to their Arabic origin in essence.

v)   Finally, further research into all language levels, especially lexis or vocabulary is needed. Also the application of such findings, moreover, to language teaching, lexicology and lexicography, translation, cultural (including anthropological and historical) awareness, understanding, and heritage is badly needed to promote cooperation and acculturation.

Acknowledgements

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