Onomatopoeia & Phono-Iconicity in Hebrew

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"The domain of onomatopoeia is much vaster than it seems to have been believed'
(Maurice Grammont 1901: 319)

Onomatopoeia (henceforth OP) is the well-known cross-linguistic phenomenon by which a linguistic element is phonetically inspired on the sound of the reality it conveys. Thus, in English metal is said to *clank*: this word is phonetically inspired on the very sound conveyed by its meaning as it is (1) perceived by the speakers and (2) reproduced according to the constraints of English phonology. These are the principles of OP across historically documented languages: *'There is an open set of infinite noises in the world... Nevertheless, we tend to accept many instances of onomatopoeia as quite adequate phonetic equivalents of the natural noises. How can language imitate, with such a limited number of speech sounds, an infinite number of natural noises? Take the bird called "cuckoo". The cuckoo's name is said to have an onomatopoetic origin: it is said to imitate the sound the bird makes, and the bird is said to emit the sound [kukuk]… the bird emits neither the speech sound [k] nor [u]; it uses no speech sounds at all. It emits two continuous sounds with a characteristic pitch interval between them, roughly a minor third. These sounds are continuous, have a steady-state pitch and an abrupt onset. The overtone structure of the steady-state sound is nearest to the formant structure of a rounded back vowel, and the formant transitions indicating a [k] before an [u]. That is why the name of this bird contains the sound sequence [ku] in some languages... First, behind the rigid categories of speech sounds one can discern some rich pre-categorial sound information that may resemble natural sounds in one way or other; and it is possible to acquire auditory strategies to switch back and forth between auditory and phonetic modes of listening; and second, certain natural noises have more common features with one speech sound than with some others'.* (Tsur 2001).

As for Phono-Iconicity, henceforth PI (the term 'sound-symbolism', often used in this context, implies the opposite of it says: we are not dealing with arbitrary symbols, but with motivated icons), it is narrowly related to OP. PI does not result from a direct imitation of natural sounds, but it displays nonetheless a relationship - either conscious or subconscious - between sound and meaning. Therefore if some of the following data belong to PI rather than OP, this should not prevent them from being treated in this framework.

Hebrew has several advantages as far as linguistic research is concerned, particularly when a topic as central as OP is at stake. On one hand, it has a long and well-documented history; on the other, it has been reactivated barely one century ago. The first situation is uncommon, the second unique: yet both display OP, proving that it is a deep, far-reaching and lively device of linguistic expression. Were OP characteristic only of the early stage of particularly old languages, we would expect to see it in Biblical Hebrew (BH) but not in its contemporary counterpart; were it typical of child-language, we would expect it to have no significant influence on grammatical and lexical structures; were it to reflect only emotional, oral and spontaneous imitation of sounds found in trivial situations, we would expect it to be absent from grammar and from highly systematized, symbolic, context-independent communication in general. None of these expectations is fulfilled: just like intonation-prosody, deixis and iconicity, OP too is found in all languages, moreover in their very grammar, and in all their diachronic stages, synchronic uses and stylistic registers, including those of Hebrew. Yet it is convenient that Hebrew, of all languages, serve as a focal point to universal inquiry. Indeed, we re not dealing only with Hebrew as such but with the language faculty, and with the form of life it characterizes, *i.e.* Man. One generation after Weinstock (1983) we no longer consider the [biological] origins of language as a taboo. It is a licit question, provided it is explored by scientifically acceptable methods (Kirtchuk 1993). OP is a key-piece in this connection.

Darwin (1872) intuited that the origin of language (OL) is in pre-linguistic communication founded on prosodic and intonative devices based to a large extent on the imitation of natural sounds. So does our contemporary Maturana (1973 *sqq*.). Fonagy (2007) shows the importance of emotional factors in the way language functions at its present stage and Bolinger (1949 *sqq*.) shows the adequacy found in language, to some extent, between content and form, *i.e.* iconicity, whose best exponent is of course OP. Language originated as the systematization of permanent communication in context, presumably triggered and guided by emotions and characterized by a high degree of OP, yet those factors continue to permeate language at its present stage too. OL is narrowly linked to OP, but OP is part and parcel of Language itself at whatever stage. As far as the emergence of the language faculty is concerned, naturally we only dispose of languages with at most 5000 years of documentation and of reconstructions which harken back only twice that period, namely 10000 years, but they are valuable pieces in *LUIT – Language: a Unified and Integrative Theory* (Kirtchuk 2007 and forthcoming), which proposes an elegant, consistent and coherent solution to a puzzle - the puzzle of Man, of which language is a major, indeed an indispensable piece. Those languages and reconstructions allow to solve the puzzle of language provided one brings into consideration other data as well, *e.g.* the anatomy and physiology of the pharynx, larynx and the organs they contain, and especially their ontogeny and phylogeny, as well as those of Broca's and Wernicke's areas in the brain. Suffice it to say that physicists and biologists dispose only of observable data, which does not prevent them from using those data in order to build elegant and consistent theories about the emergence of the Universe (some 15 billion years ago) or life (less than 4.5 billion years - the age of the earth - ago). The emergence of language is a much more recent phenomenon. OP, which we can grasp through actual tongues such as Hebrew, is a major device in our understanding of language and the way it functions, not only diachronically, phylogenetically or ontogenetically, but also synchronically, in our very own mouth, ears and brain. This evidence would suffice to corroborate Lamarck (1801-1809) corrected by Darwin (1859).

Hebrew displays OP from its oldest layers to our day (Horowitz 1960). Far from being an amusing mechanism with rather limited presence and influence, OP permeates the Hebrew lexicon and grammar deeply, widely and consistently. In order to show it, a brief introduction to the theory of the root in Hebrew and beyond is necessary.

The 3-P (3 phoneme) structure of the Semitic root conceived by the Arab grammarians and applied to Hebrew by Yehuda Hayyuj (10^{th} century CE) levels all roots into a single pattern, at the cost of intellectual operations which necessitate a high degree of abstraction, nay invention, since they posit a third consonant when only two or even a single one are actually present. An opposite view, according to which Hebrew roots are bi-phonemic to begin with has been suggested by Leibniz (1672-6), Gesenius (1871), König (1895), Halevy-Hurwitz (1913), Bergsträßer (1962), Diakonoff (1965), Ehret (1995) and Bohas (2007). Kirtchuk (2003, 2007, 2009) shows the relevance of this view within the framework of *LUIT* and enlarges its scope from diachrony to synchrony, from semantics to cognition and from Hebrew to Semitic. Indeed, a proper analysis of the alleged 3-P roots in Biblical Hebrew allows recasting them into 2-P groups whose number is reduced by a whole order, from 10^3 to 10^2. Moreover, in this realm lexicon and phonology are linked: the phonemes most frequently used to expand 2-P roots, modulate their basic meaning and restrain their application to a particular context or field are the

reduplication of the second phoneme, or of both, or the adjunction of a sonorant of the group :/l, m, n, r/, or of vowel length represented in some forms of the paradigm by /w, j/, or of an expressive ('guttural') of the group /h, ', ʕ, ħ/. As the bi-phonemic elements at the basis of the tri-phonemic expansions often reproduce a natural sound, they reflect OP. It follows that the original root-bases included a perceived vowel or a sonorant implied by the very process of imitation to which OP boils down to. It is from the syllable so formed that the bi-phonemic element was abstracted (Lipinski 1997). Which means that the structure of Semitic and Indo-European roots is identical, enhancing Greenberg's *Eurasiatic* (2005) and Dolgopolsky's (2008) *Nostratic* – two different terms for a fairly identical reality, *i.e.* the common ancestor of Afro-Asuatc, Indo-European and other language families, descended ultimately from a single stem (Greenberg's *Proto-sapiens*).
Here is a list of those bi-phonemic groups whose onomatopoetic basis, which probably contained a vowel or a sonorant, is easy to grasp - even if the Hebrew forms are not exactly those reconstructed for Proto-Semitic, (Dolgopolsky 1999) Afro-Asiatic or an even more remote ancestor, *cf.* Greenberg (2005) and Dolgopolsky (2008) - with their respective expansions (see also McCrum 1997, Nänny & Fischer 1999). The list is based on a thorough analysis of BH roots. The general sense of the bi-phonemic root is given in bold. For some of them, a possible overall sense is added *in fine*.

b/p-z/s/ʒ: sound made by a **swift movement** (*cf.* Eng. *buzz*)
bzz 'spoil, plunder' (*cf. baz* 'falcon'), bzbz 'waste', bzy 'despise', bwz 'despise', nbz 'despise', pzz 'be agile, excited; *ħ*pz 'be in a hurry", p*ħ*z 'be excited > reckless', tp̲ʒ '[move swiftly and] seize'

b-h: sound made by a **frighten**ed person or meant to cause that effect (*cf.* Eng. *boo*)
bhl 'dismay', bhy 'chaos', bhh 'contemplate with dismay'

b/p-*ħ*/ʕ/w/y: sound made by a **springing / boiling / inflating** fluid (*cf.* Eng. *boil, bubble*)
bwʕ / bʕʕ / bʕbʕ 'boil, bubble', nbʕ 'spring', nbʔ 'prophetize < utter a flow of words', bʕr 'sound made by burning matter', bʕy 'cause to swell or boil up'; pw*ħ* 'inflate, blossom', np*ħ* 'inflate', yp*ħ*, p*ħ*y, p*ħ*t 'deflate', tp*ħ*:'blow, inflate, deflate', ʔp̲y '[inflate by] cooking (dough and the like)'. The following is a variant with an occlusive (post-) velar:
p/b-g/q: sound made by an explosion or a violent movement outwards, including a fluid (liquid or gas) stirring up, flowing, blowing, gurgling or whirling intermittently
bky 'cry', bwk / bwq '(stir up water or spring >) be confused'; nbk 'spring', 'bk 'whirl', ʔbq 'dust', pky 'trickle', hpk 'overturn, make into a shambles' (*cf.* BH buqa 'waste following a cataclysm', mah[a]pe*k̲*a 'overturn'); baqbuq (Jer 19, 1; 10 'clay recipient, CH bottle', bqq 'flow' , Jer. 19 7 'flood, ruin' (*cf.* BH river and sources names *ʕejn boqeq, jaboq*), pgl 'reject', pgʕ 'hit (> get in contact with, *cf.* Eng. 'hit the road')', pgm 'hit, wound', pgr '[hit > faint >] die', pgʕ '[hit > get in contact with >] meet', pwg ' [be hit >] go numb', pgy 'bloom of the fig', pqpq '[go out of certainty >] doubt ', špq [go out of stock, antonym] suffice', pwq 'bring outwards', ʔpq 'flow outwards', pqʕ 'spring off

(buds from plants)', bqʕ 'spring off (birds from eggs)', pqℏ 'open eyes / ears / mind', pqd '[hit / set apart >], appoint, fall upon, issue'

p/b-c/T/ʕ/: sound made by a **burst / breaking** of a solid (*cf.* Eng. *burst*)
pcc 'break', pcpc 'break into pieces', pyc 'scatter', npc 'shatter', pcℏ 'cause to break', pcl 'split, press', pcr 'press', pcʕ 'break, wound', pcy 'open', pcm 'split open', bcʕ 'cut', bcr 'cut apart, protect', ypʕ 'shine out', nbT 'sprout', bTʔ 'to open lips'

p/b-r/:l: sound made by **iterative or sudden separating, dismantling, scattering,**
prʔ 'wild ass', plʔ 'separate from the ordinary', prd 'divide', plg 'split', pry 'burst in fruit', ply 'be separated', prr 'split, divide', prℏ 'bud, sprout, shoot / fly away', plℏ 'cleave', prT 'break off', plʔ 'escape', prk 'display violence', plk 'territorial subdivision', prm 'unsew', prʕ 'become loose', prp 'unbind', prs 'divide', prc 'break through', plš '[break through and] invade', plc 'shudder', prq 'dismantle', pll 'separate right from wrong > judge or pray for [clement judgment]', prs 'expand', pls 'weigh out', prpr 'tremble', ʕpr 'leap, be agile', ʕpl 'disappear', npl 'fall', brℏ 'escape', brq 'lightning separating the sky', brr 'separate', bdr 'district (*cf.* plk above)', pzr 'scatter', bzr 'distribute', prz 'open', brz 'appear'
burst, divide

d-š: sound made by **hitting an object** (*cf.* Eng. *dash*)
djš 'thread', dšʔ 'that which is marched upon > grass', dšn '[smear with] oil or greasy matter', ʔdš 'beaten to apathy', *cf.* CH dšdš 'marching repeatedly or fast without advancing (e.g. on sand or mud) ',

t/T-q/ℏ: sound made by **hitting a hard object** (*cf.* Eng. *tack*)
btq 'cut', ntq 'separate by cutting', ʕtq '[cut and] transfer', rtq 'seize', štq 'cut (stop) talking', Tℏy/Twℏ 'shoot', Tℏr 'eject', TℏN 'grind', Tyℏ 'besmearing a wall'; *cf.* CH taℏ [tax] 'strong noise, especially of shooting'

T-p: sound made by a **dripping liquid** (*cf.* Eng. *tap*)
Tpp 'drip', TpTp 'drip', nTp 'spill', Twp 'drip', Tpp 'march as if dripping', Tnp 'dirt', šTp 'overflow', šcp 'overflow furiously'
'drip, flow intermittently'

g/k/q-z/c/š: sound made by **tearing or stripping apart**
gzz 'shear', gwz 'vanish', gzy 'cut stone', gzl 'steal', gzm 'cut', gzr 'cut', qcc 'cut off', qzz 'cut off', qss 'strip off', kss 'divide up > compute)', qsm 'distribute', qcy 'cut off', yqc 'awake', qwc 'thorn', qcb 'cut off, shear', qcp 'splinter', qcʕ 'cut off', qcr 'shorten', qšš 'cut and gather stubble', qšy 'be hard' (*cf.* miqšå 'hammered work'), nqš 'beat', qšℏ 'be rough'

g/k/q-l/r sound made by **rolling or flowing**, a 'round' sound (*cf.* in many languages *gloogloo,* and the like for the same purpose; *cf.* also the terms for /l/: a *liquid,* and for r, in French*: roulé, cf.* Eng. *'a rolling stone'* someone moving to and fro'; 'surround' move around so as if to contain)
gll/glgl 'roll', gly 'move / wave /dis-cover', grr 'drag away', grm 'erode', grp 'take away', gwr 'sojourn for a while (then moving away)', grš 'expel', grʕ 'diminish', grs 'grind', gry 'small coin', grgr 'grain', krt 'amputate', grn 'threshing ground', ngr 'flow', ʔgr 'gather < converge', ʔgl 'dripping dew', rgl 'go around', ʔgn 'bowl, bassin', kll 'surround, contain', klkl 'provide', ykl 'contain, be able', ʔkl '[surround, contain by] eating', klʔ '[surround, contain against somebody's will] emprison', kly '[surround, contain by] a recipient > tool', ʕkl > [surround, contain by] digestion', klħ '[surround, contain by] exerting power', kwl 'contain', nkl '[surround, contain by] cunning', klb '[surround, contain by] encaging', klm [surround, contain by] iniquity', krr 'semi-spheric hollow recipient > measure of fluids', kwr 'semi-spheric, hollow furnace', kry 'make hollow, spheric, dig a hole', nkr 'take a deep and comprehensive look > know, recognize', krʕ 'deeply bow', krs '[round] belly', qll 'be slight, swift, trifling'
cyclic / circular / spheric movement / position / volume

q-b: sound made by **hitting something in order to make a hole in it, tapping**
qbb 'vaulted tent, utter curse against'; nqb 'pierce, hit, curse', qby 'stomach', yqb 'hollow, cavity', qbl 'opposite > attack > take > get > receive (for the semantic process, see eng. 'get'), qbr '[dig a] grave', qbʕ [hollw] cup', rqb '[get hollow by] rotting'. CH: [kavkav, kafkaf] 'type of sandals which taps the ground'

k/q/ħ-t/T sound made by **cutting or percuting** (*cf.* Eng. *cut*)
ktt percute', ktš 'bray', ktl 'cut into blocks > wall', ktb 'lisrot > write', ktr 'cut around > crown', ktp̲ 'shoulder', lqT 'pick', qwT 'break', qTb 'destroy', qTl 'kill', qTm 'amputate', qTn 'belittle', qTʕ 'cut', qTp 'pluck off', ħtt 'break', ħtħt '[break through] obstacle in path', ħtk̲ 'cut', ħtl 'wrap', ħtm 'cut short > seal'

q-r: sound made by **shivering**
qrr cold, qrħ 'ice', qwr 'bore, dig', qry 'befall', qrʔ 'befall', dqr 'pierce', nqr 'bore, dig', qrn 'horn', yqr 'hard > dear', qrʕ 'tear', qrb 'battle', qrs 'hook', qrc 'sting'
exert pressure on one point in space or time.

c/š/ɮ-f: sound made by **whistling or hissing**
cp̲r 'peep > bird > cover or call by noise > fly over'), cpp̲ / cp̲cp̲ 'chirp, peep', cp̲y 'lay out/over', cp̲ʕ 'offspring; snake's hiss', cwp̲ 'float over', rcp̲ 'pave over', cp̲ħ 'be wide over', cpn 'cover, put veil over', cp̲d 'draw together, contact over.' (*cf.* CH [tsif-tsif] 'birdsong'), špp̲ 'horned snake', šwp̲ 'bruise', šp̲y 'sweep bare', nšp̲ 'blow', nšb̲ 'blow', šp̲l 'be abased to the ground like a snake', šp̲ʕ 'abundance', šp̲r Aram. 'unveil' > cap̲ra 'break of dawn', ɮpy 'lip'

blowing horn, beauty, good health, good disposition (*cf.* in many cultures, whistling as an expression of admiration towards beauty)

š-s: šsy ‘plunder’, šsʃ ‘divide, cleave’, šsp̲ ‘hew (probably from ššʃ + syp̲ ‘sword’)’

m-š: sound associated with **caressing, fondling** (for palatality as an affective feature, cf. Fonagy 1983, Kirtchuk 1987)
mšš, mšmš, ymš, mwš ‘touch with care, feel with one’s fingers’, mš*ħ* ‘smear, anoint’

m-l/r: sound made by **parting one’s lips** (cf. Eng. Murmur)
mwl ‘cut’, mll ‘articulate, utter’, mlml ‘utter’, mlq ‘nip off’, mhl ‘adulterate wine’ (*cf.* Fr. ‘couper le vin’), mr*ħ* ‘rub’, mrq ‘scour, polish’, mrT ‘scour, polish’, mwr ‘move to and fro > change’, mrr ‘passe by > drop’, *ʔ*mr ‘say’, ymr ‘pretend’, mry ‘be contentious, refractory, rebel’
cut [apart] > separate lips > utter

m-*ħ*/g/k/q: sound made by **striking** (*cf.* IE *még- ‘hit > fight > power, able > big > man)
m*ħ*y ‘strike’, m*ħʔ* strike’, m*ħ*q ‘erase’, m*ħ*c ‘smite’, m*ħ*T ‘squeeze’, mwg ‘vanish, be afraid, weak’, mwk ‘be poor, weak’, mkk ‘weaken’, mwq ‘mock’, mqq ‘rot’, ʕmq ‘low, deep’

l-ʕ/q: sound made by **chewing and swallowing**
lʕʕ ’swallow’, lwʕ ‘speak’, blʕ ‘swallow’, lʕT ‘swallow greedily’, lʕs ‘chew’, lʕz ‘talk unintelligibly’, ltʕ-tlʕ ‘jaw’, lʕb ‘jest’, ʕlg ‘speak strangely’, lʕg ‘mock’, lglg ‘mock’, lhg ‘speak much’

l-q: sound made by the tongue and lips when **licking or lapping**
lqq ‘lap, lick, glean with one’s tongue’, CH lklk ‘id.’, lqT ‘pick, glean’,

n-q sound made by the throat when **groaning, sighing, sucking** and the like
*ʔ*nq ‘groan’, n*ʔ*q ‘id.’, *ʔ*n*ħ* ‘sigh’, ynq ‘suck’, qyn ‘mourn aloud’, qnn ‘id.’

r-T: sound made by **shivering, trembling**, possibly with metathesis
rTT ‘tremble with fear’, rTš ‘dash into pieces’, lTš ‘sharpen’

r-q/g/k: sound of feet **tapping on the ground**
rqd ‘dance, rq’ ‘stamp, beat’, rq*ħ* ‘beat and mix’, hrg ‘kill’, rqm ‘variegate’, rgz ‘agitate’, rgl ‘go about’, rgm ‘lapidate’, rgn ‘backbite’, rgʕ ‘disturb’, rgš ‘be in tumult’, rkk ‘make tender by beating ‘ (*cf.* CH *riku*k̲ *basar* ‘softening meat by beating it‘), rwq ‘emptying, making void’, rqq ‘making thin’

r/l/n-h sound made by **humming or smelling**

ryħ ‘odour’, rħrħ ‘smell’, lyħ ‘humidity’, lħlħ ‘moisten’, srħ ‘smell bad’, nħħ ‘fragrance’, rwħ ‘wind’

ʕ-k/q sound made when **charging a heavy object**
ʕks ‘rattle, tinkle’, ʕkr ‘disturbing, noise’, ʕwq ‘totter’, ʕqy ‘press’, yʕq ‘distress’, ʕgm ‘be grieved’, ʕgn ‘strain’, ʕqb ‘heel, foorprint’, ʕqd ‘tie fast’, ʕql ‘bend, twist’, ʕqm ‘curve’, ʕqr ‘hamstring’, ʕqš ‘twist’

ħ/ʕ-m: sound made in **reaction or desire of sensual** (gustative, tactile…) **pleasure** (*cf.* Eng. *mmm*, Fr. *miam*)
ħmm ‘warmth’, yħm ‘sexual heat’, ħmm ‘protect’, ħmd ‘desire’, ħwm ‘auburn’, ħmr ‘red’, ħml ‘pity, human warmth’, rħm ‘mercy, womb’, ħms ‘treat violently’, ħmc / ʔmc be red’, ħmt ‘recipient for [red =] wine’, nʕm ‘arouse by words, be agreeable’, nʔm ‘deliver a speech’, nħm ‘soothe by words, console’, hamula ‘noise of words or otherwise’

ħ-r: sound of **piercing or engraving** by metal or fire (*cf.* Eng. en-*gr*-ave)
ħrt, ħrT ‘engrave’, ħrš ‘plow / forge’, ħrs ‘scratch’, ħrc ‘trench’, ħrk ‘shades’, ħrr ‘make a hole’, ħrb attack, ħrg ‘rage’, ħrd ‘fear’, ħry ‘burn’, ħrk ‘set in motion’, ħrl ‘dry’, ħrm ‘exterminate, forbid’, ħrs ‘sun’ ħrc ‘gold’, ħrp ‘blush’, ħrq ‘gnash’

h-s / š -q: sound made as to **imitate or induce silence** (*cf.* Eng. *hush*)
hsy ‘quieten’, (h)šqT / štq ‘be quiet’

q-r sound made by a rooster **crowing**, qrqr ‘hen’s cluck’

ħ-c: sound made by **cutting through** with an obtuse object
ħcc ‘cut through’, ħcy ‘cut through’, ħwc ‘outside’, ħcb ‘dig out’, ħcr ‘clear up’, l/nħc ‘exert pressure, urge’, šħc ‘vanity’

h-q sound made by a **sudden or repeated inspiration of air**
ghq ‘chug’, šhq ‘gasp’, phq ‘yawn’

ħ/ʔ-š sound made by **swift movement**
ħšš ‘hasten’, ħwš ‘haste’, ‘wš ‘lend help’

Punctual examples in BH are:
ʔoy, ʔ[a]boy ‘lament’ (Is. 24, 16, *cf.* Lat. *vae*), dah[a]rot dah[a]rot ‘galloping’ (Jud. 5:22)

CH being essentially a projection of older stages of the language (vocabulary and morphology inspired on BH, syntax inspired on MH), it displays OP in the roots inherited from BH, but it has also created its own OP elements in the typical domains of animal expression, movement and natural phenomena. They are often metaphorized to denote

the expression of human emotions (cf. also Darwin 1872). Here are the most notorious exemples of CH verbal roots inspired on OP.

zmzm 'buzz', ptpt 'chat', ršrš 'bruise like paper or banknotes', špšp 'rub', drdr 'let stones roll downhill', hmy 'coo', mlml 'murmur', nšnš 'pick small quantities of fruit, grains or the like at random from larger heaps or servings', slsl 'make sonore or visual circumvolutions', flq, šos, zbeng 'hit somebody in different manners, provoking different (and characteristic sounds, < Yidd.), dšdš 'walk upon mud', bqbq 'bottle', ndnd 'swing', cfcf 'tweet > despise', cyc 'chirp > utter', lkk 'lick > adulate', lklk 'lick', kxkx 'rackle one's throat', hnhn 'hum in acceptance', zpzp 'zap', dpdp 'leaf, flip', šqšq 'shiver, tremble, totter > fear', hmhm 'ronronner', škšk 'bath one's feet in a river, lake or the like', clcl 'ring', gʃy 'moo > cry aloud' gʃgʃ 'quack', krkr 'croak', pʃy 'bleat', chl 'whinny, neigh > rejoice aloud', yll 'meow > complain', ʃTš 'sneeze', kwx, kʃkʃ, grgr, npp 'speak through one's nose, emit nasalized sounds', gmgm 'stutter', šrq 'whistle', hmhm 'murmur in one's beard', mcmc 'blink', pmpm 'pump', gnx 'groan', nxr 'snore', gwr, dhr 'gallop', nbx 'bark', cwc 'chirp', hccr 'blow a trumpet', tss 'ferment', qss 'bite one's nails'.

As it can be seen, verbs created on onomatopoetic roots are often built on the patterns $C_1C_2C_1C_2$ or $C_1C_2C_2$. Much like in BH, in Semitic, or – as far as those patterns represent reduplication - in language in general. Indeed, reduplication and OP are often associated, although the scope of reduplication is much wider on iconic grounds: it may reflect repetition at the semantic or pragmatic level, and not only at the phonological level (for a comprehensive bibliography, see Magnus 1997-2006), It may even be one link between raw and proto-grammaticalized communication *'Reduplication of the syllable in the* [Hebrew] *word "lᵉtsaftsef" relates it to the transition from the child's babbling stage to the […] use of verbal signs'* (Tsur 2001) *; 'By the repetition of the same syllable children signal that their phonation is not babbling but a verbal message"* (Jakobson & Waugh, 1979: 196, *cf.* also Waugh 1993). This phenomenon, highly iconic and constitutive of language in ontogeny but also in phylogeny, creolistics, pragmatics and even in the synchronic grammar of any given language, reflects OP inasmuch as it allows for the sound transmitted to be more evidently repreesented, and more closely to its natural manifestation, which is often repetitive and not semelfactive. In other words, OP in Hebrew is iconic not only inasmuch as it reflects a direct link between sound and meaning, but also inasmuch as it contains iteration, just like (often) nature. OP helps grasp Man not as a context-independent, symbolic, arbitrary and rational species but as one whose members are *capable*, as Jonathan Swift had it, of projecting themselves beyond immediate context and have access to reason and symbols, and yet who are, like the members of any other animal species, anchored in emotional, sensitive, iconic, context-dependent representations. Thus OP makes a decisive contribution towards our understanding of our own species. To say it with Sir Arthur Eddington (1920) : 'We have found a strange footprint on the shores of the unknown. We have devised profound theories, one after another, to account for its origins. At last, we have succeeded in reconstructing the creature that made the footprint. And lo! It is our own'.

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