

The Glass Bead Game by H. Hesse

For every method (LUHN, YAKE, and our method) we extracted 321 words. For YAKE and our method the actual number of words is larger; see below. Among those 321 words for each method, human experts selected keywords of the text that are colored green. The selected keywords were counted, red numbers indicate on the running count. LUHN, YAKE and our method identified 109, 57 and 62 keywords, respectively. For our situation those 321 (approximately 320) words were divided equally between global and local potential keywords: 160 words for global and 160 words for local. Word counting is indicated in brown.

OUR METHOD. GLOBAL KEYWORDS, STRONG CASES (criterion $A < 1/5$ in the paper).

['game', 'son', 'tree', 'mother', 'festival', 'woman', 'water', 'wood', 'smell', 'yogi', 'weather', 'candidate', 'penitent', 'palace', 'josephus', 'end', 'drum', 'bundle', 'milk', 'grass', 'east', 'shelter', 'weep', 'league', 'spend', 'insult', 'fiery', 'anticipation', 'thesis', 'damp', 'withstood', 'temple', 'coward', 'void', 'dusk', 'aura', 'wonderfully', 'military', 'thoughtfully', 'research', 'lonely', 'sunset', 'interval', 'palm', 'resolution', 'drank', 'purcell', 'ripen', 'submission', 'stead', 'bud', 'strove', 'cheer', 'lute', 'interview', 'slave', 'geometry'[13]]

OUR METHOD. GLOBAL KEYWORDS, WEAK CASES (criterion $1/5 < A < 1/3$ in the paper).

['master', 'joseph', 'music', 'god', 'hut', 'star', 'chinese', 'war', 'family', 'sky', 'wife', 'poem', 'serenity', 'confession', 'petition', 'elder', 'prince', 'president', 'surely', 'sin', 'city', 'girl', 'town', 'kill', 'bird', 'terror', 'stalk', 'capital', 'cult', 'harm', 'spot', 'doesnt', 'greek', 'pious', 'swim', 'herd', 'major', 'glow', 'crop', 'pot', 'imitate', 'attentiveness', 'jealousy', 'inflict', 'archivist', 'adapt', 'volume', 'wore', 'fierce', 'thicket', 'scold', 'stick', 'hermitage', 'childhood', 'defense', 'harder', 'mighty', 'tramp', 'fancy', 'contrast', 'astray', 'refuge', 'protest', 'multitude', 'merit', 'essence', 'arises', 'disappear', 'amaze', 'writing',

'respectful', 'contend', 'push', 'sap', 'pasture', 'capture', 'unbearable', 'doctor', 'devour', 'superficiality', 'patiently', 'unaware', 'street', 'timidity', 'cheek', 'sparkle', 'inquire', 'republic', 'big', 'script', 'system',[24] 'giant', 'wealthy', 'corner', 'tower', 'don', 'creep', 'politely', 'size', 'estrangle', 'notebook', 'inquiry', 'flesh', 'disconcert', 'depends', 'comprehend']

OUR METHOD. LOCAL KEYWORDS (criterion $A > 5$ in the paper).

['dasa', 'rainmaker', 'pravati', 'dion', 'herdsman', 'turu', 'rajah', 'ada', 'tribal', 'bertram', 'dasas', 'abbot', 'dubois', 'maya', 'petrus', 'headmaster', 'maro', 'animal', 'gourd', 'pugil', 'sow', 'prayer', 'lake', 'performance', 'nala', 'bengel', 'tribe', 'witch', 'apprentice', 'motionless', 'participate', 'introduction', 'hunt', 'limb', 'artistic', 'profit', 'ravana', 'anton', 'kiss', 'weathermaker', 'tent', 'magistracy'[30], 'speaker', 'extend', 'adam', 'fugue', 'tooth', 'strain', 'famulus', 'firm', 'sensitive', 'car', 'villager', 'monsieur', 'transcend', 'crouch', 'eighteenth', 'vanish', 'pravatis', 'composition', 'zbinden', 'neighborhood', 'attraction', 'envoy', 'johann', 'raid', 'domine', 'berolfingen', 'rid', 'diplomatic', 'booklet', 'entry', 'scholastic', 'ray', 'redeemer', 'hed', 'decay', 'boar', 'investiture', 'parch', 'butter', 'hunter', 'electus', 'fearful', 'cow', 'mozart', 'aeon', 'ride', 'mutual', 'grain', 'symbolic', 'apparatus', 'sand', 'fundamentally',[20] 'govindas', 'axe', 'classmate', 'curse', 'pagan', 'let', 'rock', 'creative', 'combination', 'hiding', 'tempestuous', 'predestine', 'ludus', 'deed', 'sinner', 'scatter', 'yarrow', 'plaint', 'sensuous', 'congregation', 'beat', 'journeyer', 'demiurge', 'devise', 'dispatch', 'wit', 'drought', 'knelt', 'tragic', 'swamp', 'ascalon', 'shiver', 'gervasius', 'concede', 'belpunt', 'quadrangle', 'medicine', 'oracle', 'sollemnis', 'cover', 'casually', 'sacramental', 'wanderer', 'gladness', 'dig', 'pouch', 'graduate', 'murderer', 'aspirant', 'meditative', 'familiarize', 'prayed', 'cave', 'sir', 'abbey', 'fritzs',[22] 'shield', 'impatience', 'exclusive', 'offend', 'collaboration', 'commonplace', 'pallet', 'slept',[158 words] 'egotistic', 'inevitably', 'dealing', 'oasis', 'dispensable', 'govinda', 'job', 'german', 'tea', 'musicmaking', 'collaborator', 'demigod', 'camel', 'unhappiness', 'trunk', 'stoop', 'mental', 'sorrowful', 'glitter', 'lament', 'semester', 'veraguth', 'joint', 'precise', 'carriage', 'response', 'dions', 'intercourse', 'accuse', 'shore', 'hill', 'overpower', 'gladden', 'kneel', 'urgent', 'reciprocal', 'garland', 'vote', 'stern', 'symbolism', 'goethe', 'swabian', 'hurl',

'lion', 'wan', 'enjoys', 'conductor', 'lock', 'internal', 'problematical',
'basiliensis', 'distaste', 'dwells', 'irresponsible', 'nalas', 'boil', 'evening',
'firmly', 'flag', 'inexperienced', 'pray', 'vasudeva', 'aloofness', 'civilization',
'enterprise', 'grandmother', 'casket', 'vengeance', 'reminder', 'deadly', 'rode',
'italian', 'allusion', 'bast', 'aloud', 'portrait', 'joculator', 'nearer', 'gabrieli',
'alternately', 'visionary', 'abstruse', 'elevation']

LUHN

['game', 'time', 'knecht', 'life', 'man', 'master', 'day', 'joseph', 'order', 'great',
'music', 'bead', 'glass', 'magister', 'year', 'good', 'long', 'castalia', 'friend',
'young', 'thought', 'work', 'father', 'felt', 'study', 'boy', 'mind', 'castalian',
'history', 'school', 'longer', 'knechts', 'elite', 'student', 'hand', 'teacher', 'high',
'waldzell', 'moment', 'office', 'fact', 'people', 'place', 'feel', 'matter', 'player',
[20] 'eye', 'board', 'pupil', 'sense', 'love', 'return', 'learn', 'kind', 'turn', 'men',
'age', 'small', 'knew', 'begin', 'plinio', 'hour', 'spirit', 'tegularius', 'lead', 'face',
'task', 'meditation', 'form', 'call', 'power', 'jacobus', 'idea', 'remain', 'period',
'question', 'intellectual', 'look', 'heart', 'village', 'dasa', 'reason', 'guest', 'art',
'official', 'regard', 'write', 'ask', 'experience', 'person', 'case', 'receive',
'understand', 'listen', 'country', 'live', 'nature', 'house', 'leave', 'lose', 'stood',
'point', 'death', 'realize', 'designori', 'sacrifice', 'meaning', 'knowledge', 'son',
'ludi', 'province', 'set', 'left', 'heard', 'letter', 'grow', 'soul', 'freedom', 'child',
'real', 'book', 'rule', 'doubt', 'youth', 'close', 'change', 'play', 'read', 'step',
'deal', 'language', 'god', 'talk', 'serve', 'subject', 'hut', 'desire', 'culture',
'pleasure', 'night', 'smile', 'light', 'voice', 'scholar', 'suffer', 'visit', 'word',
'reach', 'star', 'authority', 'position', 'member', 'future', 'happen', 'dream',
'exercise', 'tree', 'rest', 'gift', 'room', 'mother', 'practice', 'danger', 'struggle',
'special', 'stand', 'festival', 'story', 'laugh', 'today', 'chinese', 'early', 'brought',
'head', 'duty', 'sat', 'force', 'monastery', 'rainmaker', [20] 'speak', 'effort',
'woman', 'sort', 'want', 'scarcely', 'recognize', 'content', 'war', 'fear', 'bad',
'walk', 'ancient', 'discipline', 'lack', 'awaken', 'conduct', 'water', 'friendly',
'hierarchy', 'brother', 'highly', 'devote', 'admit', 'friendship', 'meant', 'family',
'share', 'secret', 'fine', 'enter', 'respect', 'reality', 'sound', 'strong', 'fritz',
'truth', 'played', 'hope', 'expression', 'slowly', 'note', 'imagine',
'conversation', 'archive', 'service', 'stage', 'lay', 'peace', 'symbol', 'honor',
'open', 'colleague', 'stay', 'personal', 'view', 'magic', 'strength', 'reply',

'alexander', 'tito', 'century', 'memory', 'sign', 'grant', 'told', 'situation',
'happiness', 'magisters', 'come', 'experienced', 'personality', 'make', 'human',
'prove', 'move', 'sky', 'beautiful', 'carry', 'hold', 'influence', 'expect', 'deep',
'fellow', 'entire', 'week', 'rise', 'die', 'even', 'morning', 'educator', 'character',
'living', 'path', 'appear', 'relationship', 'superior', 'seek', 'public',
'benedictine', 'request', 'assignment', 'completely', 'sleep', 'problem', 'sit',
'wife', 'wait', 'ill', 'aware', 'fall', 'garden', 'passion', 'express', 'approach',
'spring', 'musical', 'remember', 'rate', 'political', 'attitude', 'responsibility',
'free', 'continued', 'decide', 'mission', 'pravati', 'wish', 'enjoy', 'field',
'private', 'hear', 'notice', 'historical', 'assume', 'recall', 'held', 'pass', 'tone',
'partly', 'poem', 'dion' [17]]

YAKE (500 extracted words)

['game', 'bead', 'time', 'knecht', 'life', 'master', 'man', 'glass', 'day', 'joseph',
'music', 'order', 'great', 'magister', 'year', 'good', 'young', 'long', 'friend',
'castalia', 'father', 'knechts', 'thought', 'work', 'castalian', 'study', 'school',
'felt', 'mind', 'elite', 'history', 'boy', 'student', 'longer', 'high', 'hand',
'waldzell', 'teacher', 'office', 'player', 'board', 'fact', 'moment', 'place', 'eye',
'people', 'pupil', 'matter', 'feel', 'sense', 'love', 'return', 'men', 'learn', 'turn',
'kind', 'age', 'plinio', 'small', 'knew', 'begin', 'jacobus', 'hour', 'tegrarius',
'spirit', 'meditation', 'face', 'lead', 'task', 'dasa' [30], 'call', 'remain', 'village',
'power', 'form', 'period', 'intellectual', 'idea', 'art', 'question', 'guest', 'official',
'heart', 'write', 'reason', 'regard', 'ludi', 'experience', 'person', 'receive',
'country', 'listen', 'house', 'case', 'live', 'designori', 'understand', 'lose',
'leave', 'nature', 'stood', 'point', 'realize', 'magisters', 'son', 'meaning', 'letter',
'death', 'province', 'sacrifice', 'knowledge', 'set', 'heard', 'grow', 'left', 'soul',
'freedom', 'deal', 'child', 'real', 'rule', 'close', 'doubt', 'book', 'play', 'youth',
'read', 'change', 'language', 'step', 'talk', 'hut', 'god', 'serve', 'night', 'subject',
'culture', 'visit', 'voice', 'smile', 'desire', 'pleasure', 'light', 'member', 'scholar',
'suffer', 'word', 'exercise', 'star', 'tree', 'reach', 'mother', 'authority', 'position',
'future', 'rest', 'happen', 'dream', 'room', 'gift', 'practice', 'danger', 'special',
'festival', 'struggle', 'stand', 'story', 'laugh', 'chinese', 'today', 'early', 'force',
'head', 'sat', 'castalians', 'duty', 'rainmaker', 'speak', 'monastery', 'brought',
'woman', 'effort', 'bad', 'sort', 'brother', 'recognize', 'walk', 'scarcely', 'fear',
'conduct', 'content', 'war', 'discipline', 'ancient', 'water', 'friendly', 'awaken',

'lack', 'hierarchy', 'highly', 'devote', 'admit', 'enter', 'friendship', 'fritz',
'share', 'family', 'meant', 'fine', 'strong', 'secret', 'respect', 'sound', 'played',
'reality', 'slowly', 'note', 'truth', 'archive', 'stage', 'hope', 'conversation',
'expression', 'imagine', 'open', 'stay', 'symbol', 'alexander' [20], 'service',
'honor', 'colleague', 'peace', 'reply', 'personal', 'lay', 'view', 'magic', 'tito',
'century', 'strength', 'told', 'situation', 'grant', 'happiness', 'human', 'memory',
'sign', 'personality', 'prove', 'sky', 'beautiful', 'hold', 'fellow', 'carry', 'make',
'move', 'pass', 'educator', 'deep', 'morning', 'influence', 'expect', 'week',
'entire', 'public', 'plinios', 'die', 'benedictine', 'rise', 'request', 'pravati',
'assignment', 'character', 'path', 'relationship', 'superior', 'seek', 'sit', 'living',
'garden', 'sleep', 'fall', 'wait', 'wife', 'problem', 'ill', 'aware', 'free',
'completely', 'dion', 'mission', 'responsibility', 'decide', 'musical',
'continued', 'enjoy', 'spring', 'political', 'passion', 'remember', 'express',
'rate', 'attitude', 'approach', 'hear', 'private', 'notice', 'field', 'historical',
'poem', 'assume', 'held', 'recall', 'tone', 'partly', 'accept', 'serenity', [12]
'large', 'body', 'fell', 'teach', [321 words] 'perfect', 'method', 'confession',
'individual', 'community', 'law', 'true', 'strange', 'decision', 'circle', 'plant',
'herdsman', 'fill', 'wood', 'existence', 'familiar', 'plan', 'joy', 'short', 'dasas',
'movement', 'attention', 'answer', 'part', 'tutor', 'hard', 'post', 'group',
'gradually', 'function', 'watch', 'ground', 'attempt', 'gesture', 'spoke',
'shadow', 'forest', 'easy', 'moon', 'mountain', 'turu', 'elder', 'measure',
'petition', 'tradition', 'observe', 'confess', 'dance', 'forgotten', 'permit',
'education', 'number', 'talent', 'treat', 'manner', 'deputy', 'late', 'advice', 'foot',
'center', 'frequently', 'majority', 'theme', 'journey', 'concern', 'line', 'tire',
'demand', 'general', 'deeply', 'mood', 'air', 'hermit', 'tomorrow', 'thomas',
'belong', 'pay', 'silent', 'win', 'principle', 'reverence', 'event', 'piece', 'dignity',
'care', 'shape', 'encounter', 'complete', 'command', 'altogether', 'cheerful',
'president', 'science', 'prince', 'cultural', 'university', 'fully', 'difficult', 'pas',
'rajah', 'lecture', 'assign', 'understood', 'condition', 'affair', 'figure', 'meeting',
'flower', 'ready', 'development', 'bring', 'classical', 'church', 'mariafels',
'style', 'struck', 'month', 'sun', 'ideal', 'mere', 'monteport', 'cloud', 'silence',
'represent', 'preserve', 'era', 'address', 'finally', 'report', 'pure', 'element',
'harmony', 'lovely', 'exist', 'energy', 'touch', 'spent', 'supreme', 'remind',
'annual', 'invite', 'inform', 'act', 'lie', 'count', 'met', 'longing', 'continue',
'natural', 'happy', 'difficulty', 'source', 'simply', 'urge', 'disciple', 'delight',

'clear', 'strike', 'attend', 'latin', 'bear', 'tribal', 'library', 'eschholz', 'leaf',
'ceremony', 'capacity', 'bertram', 'unknown', 'reading', 'offer', 'goal', 'trace',
'ambition', 'quiet', 'smell', 'yogi', 'chance', 'enemy']