

HEART OF DOG by M. BULGAKOV

For every method (LUHN, YAKE, and our method) we extracted 107 words. For our method the actual number of words is much larger and led to uncovering thematic groups of the text; see below. Among those 107 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 28, 26 and 28 keywords, respectively. For our situation those 107 words were divided equally between global and local potential keywords. Word counting is indicated in brown.

OUR METHOD. GLOBAL KEYWORDS WERE SELECTED
ACCORDING TO $A_6 < 1/3$ (A_6 is the sixth degree variance). 440
EXTRACTED WORDS.

['philip', 'philipovich', 'dog', 'bormental', 'man', 'professor', 'eye', 'room', 'zina', 'door', 'hand', 'head', 'thought', 'sharik', 'glass', 'good', 'voice', 'day', 'darya', 'reply', 'shvonder', 'ill', 'woman', 'white', 'dear', 'people', 'sound', 'consult', 'leg', 'word', 'preobrazhensky', 'kitchen', 'black', 'bitten', 'call', 'hair', 'cat', 'stood', 'coat', 'water', 'light', 'human', 'brain', 'moscow', 'smell', 'note', 'today', 'arnoldovich', 'shariks', 'read', 'sir', 'committee', 'life', 'vodka'[54][21], 'long', 'collar', 'girl', 'mouth', 'lose', 'lay', 'pocket', 'piece', 'narrow', 'meat', 'hypophysis', 'case', 'trouser', 'great', 'carpet', 'lady', 'exclaim', 'ceiling', 'dinner', 'letter', 'howl', 'fact', 'clear', 'sort', 'patient', 'prechistenka', 'die', 'pour', 'beg', 'bell', 'lock', 'night', 'fellow', 'pale', 'knife', 'heart', 'cap', 'inquire', 'general', 'young', 'bit', 'grow', 'hat', 'teeth', 'fill', 'sit'[100], 'afraid', 'return', 'beneath', 'bormentals', 'reason', 'bad', 'swear', 'disappear', 'forgive', 'change', 'set', 'seville', 'air', 'single', 'sleep', 'fur', 'surely', 'newspaper', 'shop', 'silent', 'green', 'live', 'citizen', 'bone', 'lead', 'blue', 'lump', 'nasty', 'hold', 'oclock', 'skin', 'matter', 'terrible', 'militiaman', 'upset', 'respect', 'stair', 'porter', 'boot', 'make', 'threw', 'assistant', 'pray', 'force', 'despair', 'chairman', 'roll', 'stray', 'quiet', 'shout'[150], 'roar', 'rubbish', 'flank', 'cigarette', 'glove', 'creature', 'crimson', 'doesnt', 'true',

'wine', 'broke', 'dry', 'examine', 'loss', 'gesture', 'simple', 'shoe', 'body', 'put', 'spirit', 'space', 'mister', 'receive', 'worry', 'pain', 'plate', 'fist', 'murmur', 'touch', 'type', 'visitor', 'lie', 'whatsoever', 'feed', 'beat', 'warmth', 'request', 'key', 'entrance', 'son', 'remember', 'preobrazhenskys', 'understood', 'hind', 'command', 'large', 'guest', 'aha', 'hot', 'trouble', 'tomorrow', 'theatre', 'sign', 'care', 'stop', 'animal', 'lot', 'twist', 'embrace', 'villain', 'real', 'rush', 'boil', 'embarrassment', 'fish', 'salt', 'impossible', 'department', 'staircase', 'money', 'notice', 'caught', 'chase[20]', 'remain', 'lit', 'bottle', 'discovery', 'warn', 'artificial', 'warm', 'shrug', 'briefcase', 'job', 'flung', 'hiding', 'serve', 'hum', 'lace', 'finish', 'knock', 'instrument', 'ate', 'unpleasant', 'injured', 'finally', 'stage', 'absolutely', 'emerge', 'land', 'told', 'want', 'stocking', 'russian', 'march', 'horror', 'unexpectedly', 'odd', 'total', 'agree', 'announce', 'heaven', 'arrest', 'deal', 'spun', 'labour', 'tuck', 'watch', 'french', 'silently', 'slippery', 'month', 'operate', 'wide', 'canteen', 'wad', 'struggle', 'wool', 'trash', 'star', 'rub', 'breast', 'toe', 'science', 'stove', 'origin', 'exceptional', 'english', 'steal', 'gold', 'lemon', 'desk', 'organ', 'tenderly', 'implore', 'nourishment', 'bed', 'distinctly', 'whine', 'hormone', 'tucked', 'confusion', 'wave', 'passion', 'splendid', 'wind', 'gateway', 'bar', 'breed', 'cook', 'canine', 'emit', 'german', 'middle', 'harm', 'filthy', 'sight', 'catch', 'unknown', 'furious', 'whistle', 'card', 'soul', 'troubled', 'effort', 'bucket', 'amazement', 'faint', 'proudly', 'thatll', 'social', 'skirt', 'aback', 'coffee', 'married', 'lung', 'sofa', 'guess', 'interested', 'fling', 'barrel', 'theyve', 'dangerous', 'fair', 'patch', 'hed', 'phrase', 'transform', 'refuse', 'glumly', 'downy', 'legend', 'basin', 'manner', 'cloud', 'met', 'follow', 'benefactor', 'sense', 'poison', 'blush', 'oooooo', 'crawl', 'swine', 'forget', 'improve', 'reminiscent', 'part', 'glavryba', 'aroma', 'big', 'mistake', 'smash', 'wild', 'biting', 'pupil', 'fiery', 'magician', 'distance', 'female', 'razor', 'nod', 'dignity', 'conclusion', 'rosy', 'maid', 'men', 'unbearably', 'glimpse', 'revolution', 'commit', 'discussion', 'revolver[21]', 'warrant', 'fate', 'bow', 'advanced', 'dig', 'unfortunate', 'hotly', 'unwell', 'burning', 'situation', 'help', 'counter', 'pile', 'slid', 'uttered', 'sideways', 'pas', 'battle', 'fix', 'lapel', 'gun', 'brick', 'inform', 'keel', 'continue', 'respectfully', 'pace', 'start', 'deeply', 'sincerely', 'recover', 'wider', 'threaten', 'thrust', 'blushing', 'poke', 'softly', 'smelt', 'hollow', 'weaker', 'meant', 'typist', 'hard', 'therell', 'tremble', 'attempt', 'blighter', 'lure[3]]

OUR METHOD. LOCAL KEYWORDS WERE SELECTED
 ACCORDING TO $A_6 > 3$ (A_6 is the sixth degree variance). 467
 EXTRACTED WORDS.

['sharikov', 'turn', 'table', 'small', 'moment', 'answer', 'gentleman', 'happen', 'mind', 'paper', 'wall', 'order', 'corridor', 'floor', 'cupboard', 'yell', 'deep', 'rise', 'nose', 'owl', 'heavy', 'document', 'tail', 'stand', 'salami', 'polygraphovich', 'bark', 'skull', 'smile', 'shoulder', 'cover', 'felt', 'colour', 'december', 'january', 'alley', 'window', 'hurry', 'food', 'question', 'meeting', 'street', 'sick', 'disruption', 'result', 'laugh', 'pair', 'spread', 'rang', 'telephone', 'speak', 'flash', 'child', 'scar', [54][7] 'gleam', 'lavatory', 'drop', 'suspend', 'forehead', 'perform', 'register', 'sharikovs', 'obukhov', 'dish', 'excellent', 'tone', 'bite', 'nature', 'yellow', 'vanished', 'short', 'insert', 'close', 'continued', 'knew', 'experiment', 'week', 'totally', 'armchair', 'late', 'fool', 'klim', 'huge', 'sacred', 'sudden', 'broken', 'smock', 'strip', 'central', 'chef', 'parquet', 'spot', 'lip', 'sharp', 'sake', 'pipe', 'paw', 'temperature', 'brow', 'cheek' [100], 'throw', 'snow', 'curtain', 'worth', 'retort', 'come', 'scholar', 'camphor', 'struck', 'furiously', 'whisper', 'nile', 'yesterday', 'glitter', 'weight', 'discover', 'special', 'circus', 'divinity', 'cracow', 'meet', 'silver', 'palm', 'brightly', 'youth', 'photograph', 'buy', 'opinion', 'van', 'proletariat', 'throat', 'curious', 'spectacle', 'stick', 'gaze', 'madam', 'declare', 'pencil', 'express', 'cheese', 'damn', 'conversation', 'action', 'spit', 'board', 'offer', 'object', 'calendar', 'suspiciously', 'clenched' [150], 'sigh', 'produce', 'shock', 'blot', 'marble', 'step', 'appetite', 'stitch', 'pest', 'tinkle', 'tap', 'born', 'heating', 'fine', 'alexandrovich', 'male', 'europe', 'tram', 'phew', 'sparkle', 'ear', 'shvonders', 'curse', 'secret', 'receiver', 'pyotr', 'cease', 'shaggy', 'crack', 'lick', 'rag', 'cloth', 'observe', 'love', 'cognac', 'break', 'shake', 'respond', 'pulse', 'wet', 'priest', 'method', 'handsome', 'attach', 'scald', 'rejuvenation', 'swab', 'strangle', 'development', 'tell', 'laboratory', 'depth', 'miserable', 'hospital', 'wooden', 'free', 'straighten', 'search', 'dream', 'precisely', 'yard', 'ashamed', 'strictly', 'subdepartment', 'normal', 'cotton', 'scrap', 'powder', 'bear', 'content', 'policeman', 'direction', 'flea', 'pinch', 'main', 'goodness', 'flame', 'cup', 'creep', 'blizzard', 'move', 'injection', 'restore', 'patronymic', 'needle', 'taste', 'kalabukhov', 'ready', 'tore', 'excite', 'shone', 'chain', 'pink', 'held', 'nostril', 'proceed', 'shave', 'teach', 'pleasure', 'mention', 'cream', 'scissors', 'abyr', 'automatically', 'sore', 'terror', 'dad', 'down', 'aida', 'hurt', 'bolshoi', 'kill', 'nightmare', 'pause', 'mumble', 'shoot', 'precise', 'footstep', 'hypothesis', 'trick', 'clothes', 'engels', 'turkey', 'conclude', 'phonograph', 'divide', 'proof', 'dull', 'torn', 'petrovnas', 'rumour', 'hoarsely', 'azure', 'respiratory', 'protege', 'strong', 'crept', 'store', 'present', 'dine', 'pleasant', 'history', 'behave', 'edge', 'wouldnt', 'bread', 'sleeve', 'economy', 'operating', 'ashtray', 'fyodors', 'thief', 'sleepy', 'apron', 'height', 'harsh', 'swept', 'materialise', 'servant', 'accord', 'spare', 'selfcontrol', 'strange', 'nearer', 'gauze', 'isadora', 'slink', 'heave', 'event', 'drew', 'clinic', 'transplant', 'tenrouble', 'paid', 'reallocation', 'oven',

'council', 'shape', 'journal', 'whimper', 'ground', 'zinaida', 'menace', 'bright', 'reserve', 'pin', 'surname', 'mosselprom', 'moon', 'send', 'peer', 'prokofievna', 'line', 'idiotic', 'scold', 'bought', 'janitor', 'partake', 'age', 'blonde', 'sella', 'swearword', 'vlas', 'pane', 'fly', 'partridge', 'recall', 'membrane', 'froze', 'mange', 'saline', 'reach', 'sniffed', 'slut', 'bulge', 'growl', 'decide', 'ironic', 'doze', 'barbarian', 'sunk', 'leaf', 'rabbit', 'extinguish', 'patent', 'suit', 'sweat', 'bourgeois', 'lintel', 'mar', 'charm', 'bold', 'nervously', 'risk', 'check', 'rich', 'irony', 'calm', 'hungry', 'flow', 'member', 'normative', 'doorway', 'cane', 'curiosity', 'lucky', 'clad', 'student', 'hem', 'bumped', 'crime', 'pub', 'powerful', 'beard', 'improvement', 'combine', 'bitterly', 'remains', 'appearance', 'inhabitant', 'slipper', 'extremely', 'heap', 'chance', 'duncan', 'kautsky', 'utmost', 'anxiously', 'screw', 'hook', 'famous', 'malicious', 'slap', 'create', 'nervous', 'divine', 'brilliantly', 'survey', 'succeed', 'permission', 'worker', 'tale', 'patience', 'heal', 'bitch', 'proletarian', 'kiss', 'chaos', 'beam', 'foul', 'squint', 'adrenaline', 'dive', 'honour', 'claw', 'nikitins', 'war', 'elephant', 'cowl', 'opening', 'brace', 'rubber', 'picture', 'spinoza', 'knickers', 'squeal', 'stink', 'foremost', 'cur', 'observation', 'complexion', 'float', 'layer', 'phewpew', 'soak', 'sexual']

LUHN (107 EXTRACTED WORDS).

['philip', 'philipovich', 'dog', 'sharikov', 'bormental', 'man', 'professor', 'eye', 'room', 'zina', 'door', 'hand', 'head', 'time', 'flat', 'face', 'thought', 'doctor', 'begin', 'sharik', 'open', 'glass', 'good', 'voice', 'turn', 'day', 'darya', 'reply', 'house', 'ill', 'shvonder', 'petrovna', 'woman', 'white', 'ask', 'dear', 'people', 'sound', 'table', 'place', 'consult', 'leg', 'word', 'small', 'moment', 'study', 'appear', 'preobrazhensky', 'understand', 'work', 'kitchen', 'cry', 'hair', 'call', 'cat', 'black', 'bitten', 'operation', 'left', 'coat', 'pronounce', 'stood', 'philipovichs', 'answer', 'moscow', 'water', 'human', 'finger', 'raise', 'brain', 'light', 'reception', 'god', 'kind', 'gentleman', 'fyodor', 'even', 'smell', 'stomach', 'happen', 'note', 'today', 'galosh', 'mind', 'hell', 'point', 'look', 'shariks', 'read', 'ivan', 'arnoldovich', 'paper', 'sir', 'committee', 'hall', 'fell', 'long', 'life', 'red', 'collar', 'bathroom', 'vodka', 'girl', 'wall', 'lose', 'mouth', 'person'[28]]

YAKE (107 EXTRACTED WORDS)

['philip', 'philipovich', 'dog', 'sharikov', 'bormental', 'man', 'professor', 'room', 'eye', 'zina', 'door', 'hand', 'head', 'time', 'flat', 'face', 'thought', 'doctor', 'sharik', 'darya', 'open', 'glass', 'begin', 'voice', 'good', 'reply', 'turn', 'house', 'petrovna', 'day', 'shvonder', 'ill', 'woman', 'white', 'dear', 'consult', 'sound', 'preobrazhensky', 'people', 'table', 'place', 'leg', 'word', 'moment', 'study', 'shariks', 'bitten', 'understand', 'small', 'work', 'kitchen', 'cry', 'black', 'call', 'hair', 'operation', 'cat', 'pronounce', 'answer', 'reception', 'coat', 'left', 'stood', 'raise', 'water', 'brain', 'finger', 'human', 'light', 'moscow', 'god', 'fyodor', 'kind', 'gentleman', 'arnoldovich', 'bormentals', 'ivan', 'stomach', 'note', 'today', 'happen', 'smell', 'read', 'committee', 'galosh', 'mind', 'hell', 'point', 'fell', 'sir', 'hall', 'paper', 'vodka', 'long', 'life', 'red', 'bathroom', 'collar', 'lose', 'person', 'girl', 'wall', 'mouth', 'eat', 'meat', 'narrow', 'sharikovs'[26]]