

## CRIME AND PUNISHMENT by F. Dostoevsky

For every method (LUHN, YAKE, and our method) we extracted 362 words. For YAKE and our method the actual number of words is larger; see below. Among those 362 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 59, 67 and 107 keywords, respectively. For our situation those 362 words were divided equally between global and local potential keywords: 181 words for global and 181 words for local. Word counting is indicated in brown.

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

'sonia', 'razumihin', 'dounia', 'petrovitch', 'ivanovna', 'katerina', 'svidrigailov', 'porfiry', 'pyotr', 'pulcheria', 'rody', 'alexandrovna', 'avdotya', 'romanovna', 'zossimov', 'zametov', 'nastasya', 'marfa', 'sofya', 'amalia', 'semyonovna', 'copeck', 'sing', 'ilya', 'fomitch', 'koch' [25], 'soup', 'neva', 'cost', 'bore', 'gallop', 'persist', 'contemptuous', 'reluctantly', 'relief', 'grieve', 'crust', 'folk', 'hinder', 'style', 'strip', 'arouse', 'bless', 'demand', 'howl', 'fume', 'political', 'atmosphere', 'throbbed', 'ivan', 'insanity', 'concentrate', 'beggary', 'weary', 'burnt', 'daydream', 'muse', 'sixteen', 'joyful', 'pedlar', 'oppress', 'entreat', 'sunday', 'practically', 'incoherent', 'ascertain', 'fails', 'heap', 'separation', 'stupefaction', 'attribute', 'shrink', 'womanish', 'resolute', 'leapt', 'policestation', 'clasp', 'gogol', 'talkative', 'portrait', 'sneer', 'merit', 'transform', 'induced', 'dyou', 'rate', 'sausage', 'marvel', 'rescue', 'artist', 'booth', 'devour', 'gentlemanly' [10], 'happier', 'outcry', 'apply', 'barefoot', 'independent', 'unnecessary', 'cowardly', 'grasped', 'awaken', 'prolong', 'discharge', 'slyness', 'soundly', 'fundamental', 'unseen', 'workshop', 'slim', 'gang', 'copy', 'brutal', 'adore', 'fought', 'holiday', 'remote', 'sacred'

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

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'mother', 'child', 'brother', 'luzhin', 'romanovitch', 'flat', 'letter', 'crowd', 'petrovna', 'lebeziatnikov', 'suffer', 'nikolay', 'sir', 'axe', 'crime', 'office', 'marmeladov', 'funeral', 'sonias', 'pledge', 'bridge', 'country', 'hehehe', 'official'[20], 'unknown', 'shirt', 'key', 'rain', 'present', 'siberia', 'journey', 'continual', 'fetch', 'picture', 'flower', 'pick', 'cup', 'agonise', 'dostoevsky', 'leather', 'explosive', 'fling', 'revolt', 'zaharovitch', 'excellency', 'rank', 'wipe', 'consider', 'advance', 'blank', 'collect', 'author', 'hopeless', 'beard', 'authority', 'whisker', 'apologise', 'leaf', 'certificate', 'filthy', 'stare', 'smear', 'travel', 'failure'[181 words], 'irritability', 'tree', 'nearer', 'shot', 'vassilyevsky', 'prepare', 'development', 'ease', 'plate', 'weight', 'eccentric', 'situation', 'tendency', 'spectacle', 'swollen', 'pack', 'trick', 'singer', 'load', 'disliked', 'mixed', 'alexandrovnas', 'evening', 'smoke', 'perspiration', 'helplessness', 'stepmother', 'soldier', 'prank', 'conspicuous', 'scientific', 'rubbish', 'exhaustion', 'involuntarily', 'indifferent', 'nicely', 'boldly', 'jeered', 'grimly', 'lamp', 'naïve', 'frankness', 'numb', 'lippevechsel'[15], 'surround', 'penal', 'blankly', 'built', 'afternoon', 'blunder', 'undressed', 'attain', 'lame', 'contradict', 'certainty', 'dusk', 'institution', 'romantic', 'submissive', 'suffering', 'halfpenny', 'pester', 'ungrateful', 'permanent', 'submit', 'rock', 'curtain', 'eighteen', 'motionless', 'distinct', 'impress', 'youa', 'habitual', 'hectic', 'strikingly', 'frantically', 'harshly', 'labour'

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

'cart', 'revolver', 'mikolka', 'earring', 'mare', 'sock', 'jesus', 'porfirys', 'assistant', 'trouser', 'pashenka', 'exaggerated', 'community', 'blanket', 'superintendent', 'recovery', 'captain', 'quality', 'pestryakov'[10], 'shoot', 'dozen', 'luise', 'interpose', 'reassure', 'smartness', 'spoonful', 'considerable', 'tug', 'assist', 'commissariat', 'hundredrouble', 'unpleasantness', 'passersby', 'mankind', 'kerchief', 'vahrushin', 'moan', 'ghost', 'river', 'fiancé', 'deliberately', 'category', 'cristal', 'sous', 'romanovnas', 'document', 'comrade', 'bar', 'wicked', 'publisher', 'tie', 'schiller', 'thirtyfive', 'iron', 'katia'[11], 'huckster', 'hollow', 'tchebarov', 'firstrate', 'formality', 'plainly', 'boardingschool', 'surprising', 'aristocratic', 'boulevard', 'transgress', 'message', 'zametovs', 'coughcoughcough', 'cinq', 'shaft', 'semyonovnas', 'phantom', 'apropos', 'independence', 'mate', 'genteel', 'palais', 'greet', 'mistress', 'attire', 'excessive', 'outer', 'nastasyas', 'missy', 'dryly', 'unfastened', 'hotel', 'malicious', 'owl', 'insolent', 'martha', 'parcel', 'magnificent', 'attitude', 'divine', 'glove', 'destitute', 'practicality', 'signature', 'quilt', 'psychologically', 'military', 'crucify', 'withdraw', 'sanction', 'trash', 'unaccountable', 'accusation', 'sensibly', 'nag', 'poison', 'vigorous', 'vater', 'ostrov'[15], 'saith', 'circumstantial', 'absence', 'messenger', 'coward',

'lunch', 'affront', 'coachman', 'countenance', 'challenge', 'steel', 'achilles', 'dandy', 'swing', 'sarcastically', 'flight', 'provide', 'vision', 'thoughtful', 'potchinkovs', 'tender', 'entertain', 'forge', 'humane', 'weapon', 'jewelcase', 'blockhead', 'powder', 'mumble', 'expound', 'frayed', 'unthinkable', 'favourite', 'sombre', 'poof', 'sticky', 'forgetfulness', 'notebook', 'veal', 'greedily', 'fortunately', 'percentage', 'dushkins', 'cleft', 'dushkin', 'policeoffice', 'block', 'suppress', 'deception', 'cock', 'intent', 'choked', 'sought', 'periodical', 'cheap', 'mary', 'gathering', 'suggestion', 'stress', 'innkeeper', 'spider', 'blushing', 'newcomer', 'fumble', 'fish', 'darya' [8] [181 words], 'meditate', 'ribbon', 'intolerable', 'boat', 'wittily', 'economic', 'establish', 'tonight', 'proposition', 'memorial', 'queen', 'tremendously', 'poppet', 'exceptionally', 'palate', 'loss', 'peculiarly', 'bareheaded', 'shameless', 'criticism', 'verst', 'flutter', 'responsible', 'idiocy', 'compel', 'intentionally', 'moon', 'counter', 'strive', 'alley', 'cancan', 'oddly', 'strangle', 'carelessly', 'dignify', 'seal', 'compress', 'hospitality', 'rodyas', 'declaration', 'comfortably', 'gambler', 'brings', 'frantsovna', 'hostile', 'chorus', 'lover', 'revenge', 'newton', 'foreseen', 'savage', 'create', 'resistance', 'steadily', 'comic', 'revulsion', 'loaf', 'shamefaced', 'mademoiselle', 'knockdown', 'constrain', 'banging', 'cautious', 'throng', 'selfconfidence', 'price', 'radiant', 'heroic', 'signing', 'maniac', 'poorest', 'blowing', 'yell', 'fawn', 'decrepit', 'homage', 'fidget', 'faithful', 'medal', 'emphasis', 'cleverest', 'burn', 'broader', 'build', 'paler', 'induce', 'subscription', 'temple', 'strode', 'overtake', 'godless', 'tower', 'heartless', 'impartially', 'suchandsuch', 'thump', 'splutter', 'pair', 'notch', 'major', 'drum', 'untie', 'shave', 'organisation', 'comical', 'click', 'conclusively', 'gravely', 'fyodorovna', 'feeble'

LUHN (361 words, 59 keywords)

'raskolnikov', 'man', 'time', 'sonia', 'thought', 'hand', 'razumihin', 'room', 'dounia', 'begin', 'look', 'face', 'turn', 'cry', 'petrovitch', 'ivanovna', 'day', 'eye', 'woman', 'door', 'ill', 'mother', 'katerina', 'moment', 'talk', 'good', 'head', 'svidrigailov', 'porfiry' [10], 'understand', 'long', 'ask', 'speak', 'great', 'stood', 'answer', 'pyotr', 'felt', 'minute', 'people', 'child', 'money', 'walk', 'open', 'remember', 'heard', 'question', 'life', 'mind', 'feel', 'laugh', 'smile', 'left', 'idea', 'heart', 'yesterday', 'simply', 'word', 'notice', 'young', 'knew', 'stand', 'year', 'sit', 'told', 'brother', 'sort', 'sister', 'strange', 'shout', 'fact', 'listen', 'pulcheria', 'wait', 'rodyas', 'house', 'table', 'place', 'street', 'alexandrovna', 'avdotya' [10], 'matter', 'rouble', 'god', 'point', 'romanovna', 'work', 'love', 'lie', 'girl', 'sat', 'case', 'step', 'luzhin', 'happen', 'night', 'want', 'lose', 'fancy',

'rodion', 'men', 'voice', 'leave', 'afraid', 'window', 'think', 'father',  
'romanovitch', 'business', 'today', 'live', 'set', 'zossimov', 'zametov', 'flat',  
'hour', 'nastasya', 'hear', 'come', 'dress', 'letter', 'dear', 'brought', 'light',  
'marfa'[10], 'murder', 'pass', 'stair', 'corner', 'sofya', 'write', 'sofa', 'mutter',  
'drunk', 'lay', 'kill', 'read', 'crowd', 'petrovna', 'lebeziatnikov', 'nonsense',  
'address', 'pale', 'landlady', 'fellow', 'straight', 'lady', 'pocket', 'clear', 'police',  
'die', 'clerk', 'friend', 'amalia', 'whisper', 'person', 'suffer', 'explain', 'observe',  
'reason', 'note', 'repeat', 'porter', 'month', 'frighten', 'bring', 'silence', 'gaze',  
'semyonovna'[10], 'rush', 'move', 'watch', 'lip', 'blood', 'stop', 'chair', 'poor',  
'bad', 'struck', 'drop', 'expect', 'rest', 'hold', 'paper', 'bed', 'close', 'arm', 'deal',  
'nikolay', 'conversation', 'late', 'dream', 'sir', 'pull', 'morning', 'raise', 'axe',  
'glance', 'drink', 'doubt', 'crime', 'even', 'reach', 'tear', 'gentleman', 'tremble',  
'water', 'honour', 'position', 'wall', 'hurry', 'sudden', 'daughter', 'tea',  
'goodbye', 'petersburg', 'rag', 'glad', 'make', 'cross', 'beg', 'lizaveta', 'kiss',  
'wife', 'stay', 'ready', 'decide', 'town', 'haste', 'true', 'fell', 'fool', 'remain',  
'hope', 'death', 'lodge', 'student', 'change', 'call', 'family', 'spite', 'angry',  
'carry', 'suppose', 'story', 'lead', 'dark', 'object', 'office'[10], 'visit',  
'tomorrow', 'dmitri', 'met', 'mad', 'dead', 'return', 'terrible', 'excuse', 'care',  
'short', 'star', 'hair', 'sank', 'instant', 'silent', 'pay', 'wrong', 'air', 'receive',  
'start', 'sick', 'terror', 'living', 'flash', 'cold', 'lock', 'clothes', 'slip', 'hat',  
'stupid', 'broke', 'order', 'coat', 'respect', 'account', 'held', 'confess', 'husband',  
'truth', 'special', 'scarcely', 'illness', 'fall', 'foot', 'sound', 'wouldnt', 'future',  
'suspicion', 'admit', 'hang', 'polenka', 'doctor', 'pas', 'visitor', 'boy', 'instance',  
'despair', 'oclock', 'heaven', 'cut', 'sign', 'chapter', 'floor', 'completely',  
'surprise', 'tavern', 'worry', 'trouble', 'shake', 'uneasy', 'evidence', 'intently',  
'interrupt', 'book', 'service', 'dinner', 'drew', 'copeck', 'escape', 'sleep', 'kind',  
'imagine', 'assure', 'article', 'character', 'white', 'ashamed', 'grow', 'blame',  
'sake', 'meant', 'pace', 'subject', 'cap', 'bow', 'fix', 'reckon', 'marmeladov'[9],  
'laughter', 'sing', 'attention', 'tell', 'stone', 'conviction', 'high', 'desire',  
'positively', 'declare', 'broken', 'wasnt', 'carefully'

YAKE (361 words, 67 keyword)

'raskolnikov', 'man', 'time', 'sonia', 'petrovitch', 'ivanovna', 'hand',  
'razumihin', 'thought', 'room', 'dounia', 'cry', 'turn', 'face', 'begin', 'eye',  
'katerina', 'day', 'door', 'woman', 'ill', 'mother', 'moment', 'porfiry', 'head',  
'pyotr'[10], 'good', 'svidrigailov', 'talk', 'understand', 'long', 'great', 'stood',  
'answer', 'speak', 'minute', 'open', 'felt', 'walk', 'people', 'money', 'child',  
'remember', 'heard', 'question', 'mind', 'life', 'laugh', 'pulcheria', 'feel',

'young', 'smile', 'alexandrovna', 'yesterday', 'left', 'idea', 'heart', 'stand', 'avdotya', 'sit', 'word', 'notice', 'knew', 'sister', 'strange', 'listen', 'simply', 'year', 'told', 'wait', 'rody', 'brother' [10], 'romanovna', 'shout', 'table', 'sort', 'house', 'fact', 'street', 'god', 'rouble', 'place', 'matter', 'point', 'love', 'sat', 'lie', 'work', 'rodion', 'girl', 'luzhin', 'case', 'step', 'happen', 'night', 'lose', 'romanovitch', 'fancy', 'voice', 'men', 'leave', 'window', 'afraid', 'pass', 'father', 'zametov', 'today', 'live', 'marfa', 'hour', 'nastasya', 'business', 'set', 'zossimov' [10], 'sofya', 'flat', 'petrovna', 'hear', 'dear', 'ivanovnas', 'murder', 'dress', 'letter', 'sofa', 'write', 'corner', 'light', 'stair', 'brought', 'kill', 'amalia', 'mutter', 'lay', 'drunk', 'read', 'lebeziatnikov', 'pale', 'crowd', 'semyonovna' [10], 'address', 'police', 'fellow', 'nonsense', 'straight', 'lady', 'pocket', 'landlady', 'clerk', 'clear', 'die', 'whisper', 'friend', 'note', 'observe', 'explain', 'reason', 'repeat', 'suffer', 'porter', 'bring', 'person', 'rush', 'frighten', 'gaze', 'lip', 'silence', 'month', 'sonias', 'watch', 'chair', 'move', 'blood', 'deal', 'stop', 'poor', 'struck', 'drop', 'hold', 'nikolay', 'close', 'bad', 'sir', 'expect', 'raise', 'rest', 'paper', 'bed', 'arm', 'morning', 'pull', 'conversation', 'axe', 'late', 'glance', 'dream', 'drink', 'tremble', 'honour', 'doubt', 'lizaveta', 'water', 'pas', 'tear', 'crime', 'reach', 'gentleman' [10], 'wall', 'position', 'tea', 'goodbye', 'hurry', 'sudden', 'daughter', 'glad', 'cross', 'beg', 'petersburg', 'rag', 'kiss', 'make', 'stay', 'wife', 'remain', 'decide', 'ready', 'fell', 'haste', 'true', 'town', 'fool', 'change', 'death', 'dmitri', 'razumihins', 'lodge', 'student', 'hope', 'office', 'carry', 'angry', 'call', 'family', 'spite', 'dark', 'short', 'suppose', 'tomorrow', 'story', 'visit', 'lead', 'object', 'met', 'dead', 'excuse', 'star', 'mad', 'terrible', 'return', 'care', 'hair', 'sank', 'air', 'pay', 'flash', 'silent', 'wrong', 'lock', 'instant', 'receive', 'cold', 'dounias', 'start', 'living', 'sick', 'clothes', 'held', 'terror', 'broke', 'coat', 'hat', 'respect', 'slip', 'order', 'account', 'stupid', 'truth', 'heaven', 'husband', 'confess', 'foot', 'future', 'fall', 'wouldnt', 'suspicion', 'sound', 'polenka', 'special', 'illness', 'scarcely', 'hang', 'admit', 'cut', 'oclock', 'despair', 'boy', 'doctor', 'instance', 'visitor', 'chapter', 'shake', 'sign', 'floor', 'surprise', 'worry', 'completely', 'intently', 'tavern', 'trouble', 'interrupt', 'evidence', 'uneasy', 'sleep', 'drew', 'book', 'copeck', 'dinner', 'escape', 'service', 'article', 'kind', 'imagine', 'assure', 'pace', 'marmeladov', 'white', 'grow', 'sake', 'ashamed', 'blame', 'meant', 'character', 'fix', 'sing', 'attention', 'bow', 'laughter', 'cap', 'subject', 'reckon', 'stone', 'high', 'positively', 'broken', 'carefully', 'declare', 'desire', 'ilya' [17], 'wasnt', 'conviction', 'breath', 'asleep', [362 words] 'glass', 'rise', 'big', 'caught', 'prison', 'forgotten', 'expression', 'succeed', 'murderer', 'purpose', 'agree', 'secret', 'realise', 'send', 'sensation', 'funeral', 'peasant', 'slowly', 'worth', 'yard', 'reply', 'staircase', 'strong', 'fear', 'spoke', 'effort', 'drunken', 'middle', 'meeting', 'ground', 'awful', 'run', 'complete', 'surprised', 'convince',

'interest', 'put', 'beat', 'comfort', 'insult', 'criminal', 'real', 'soul', 'chest',  
'shoulder', 'marriage', 'flung', 'laid', 'sight', 'hurriedly', 'forgive', 'wear',  
'finger', 'red', 'weep', 'throw', 'meet', 'anxiety', 'chance', 'form', 'explanation',  
'invite', 'catch', 'recognise', 'flush', 'doorway', 'enter', 'cover', 'piece',  
'reading', 'aloud', 'german', 'touch', 'force', 'circumstance', 'porfiry',  
'appearance', 'opinion', 'bear', 'understood', 'refuse', 'reflect', 'policeman',  
'anxious', 'black', 'drinking', 'bit', 'delirious', 'workman', 'nature', 'pause',  
'lesson', 'strength', 'seat', 'delirium', 'plan', 'duty', 'perfectly', 'happy',  
'general', 'save', 'excite', 'tone', 'seize', 'avoid', 'leg', 'blow', 'pledge',  
'lodging', 'small', 'recall', 'fever', 'fail', 'torture', 'mistake', 'wide', 'beating',  
'pillow', 'extraordinary', 'hay', 'promise', 'express', 'scream', 'acquaintance',  
'passage', 'week', 'settle', 'wake', 'offer', 'crush', 'drive', 'yellow', 'free',  
'society', 'lift', 'ring', 'wash', 'knee', 'alarm'