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Judgment or Hope? Quantifying Frequent and Abrupt Changes in the Emotion of Language from the Book of *Isaiah*

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ABSTRACT

A quantification of the pleasantness of text from the Biblical book of *Isaiah* (NIV translation) using the Dictionary of Affect in Language indicates that the work has many abrupt changes in emotional tone (p<.05) between its 102 segments. Changes are in line with commentators' description of the book as a mixture of hope and judgment. Confusion experienced by inexperienced readers of this work could be the result of the recurrent and often un-signaled changes in emotional tone.

Keywords: Language, Emotion, Bible, Isaiah

Come, O house of Jacob, let us walk in the light of the Lord. 😊
Go into the rocks, hide in the ground, from the dread of the Lord… ☹
Isaiah 2: 5, 10

Let them come together … they will be brought down to terror and infamy. ☹
Oh Israel, I will not forget you… Return to me for I have redeemed you. 😊
Isaiah 44: 11, 21, 22 (NIV, 1984)

The prophetic book of *Isaiah*, included in the canons of the Christian Bible and the Hebrew Tanakh, presents many difficulties for first-time readers for several possible reasons. When the book is read in translation, it loses some of the impact of the original Hebrew poetry (Everson, 2019, p. xiii; Oswalt, 2003, p. 37). Although not all scholars agree, some have suggested that the book has two or more different authors and that authorial differences might have led to variable style and content (Everson, 2019, p. xi; Oswalt, 2003, p. 33). The text of *Isaiah* covers a wide time span: it is anchored in the reign of King Ahaz of Judah (in about 730 BCE) but some of its contents are interpreted as post-apocalyptic (chapter 33:17-24, for example). One of the most confusing things about *Isaiah* is its rapidly cycling swings from denunciation to reassurance and back again (Oswalt, 2003, p. 42). It is common to find, within one and the same chapter such as chapters 2 and 44, illustrated above, segments condemning a nation (usually Israel), and segments of hope a the wonderful future. There is no transitional material to alert readers to these changes in stance (e.g., Oswalt, 2003, p. 92), and readers often find themselves several verses into content with a completely different tone and outlook before realizing that the focus has changed. A much clearer presentation of possible outcomes of obeying and disobeying the Lord, with a multitude of transitional cues, can be found in the last chapters of *Deuteronomy* (e.g., 30: 15-18), which is not normally classified as a prophetic work.

Within the text of *Isaiah*, themes of hope alternate dizzyingly with promises of condemnation and punishment. Oswalt (2003; pp. 42, 84) has attempted to defuse the confusion by suggesting that *Isaiah* is promoting "hope through judgment". Everson (2019, pp. 43, 149) refers to the same two extremes as bitterness and hope. This sounds like a "carrot and stick" approach, where bad outcomes are promised for bad behaviors and good outcomes for good ones (e.g., *Isaiah* 1:24-26). "Bad behaviors" mentioned repeatedly in *Isaiah* include ritualistic rather than sincere worship, the worship of idols, failure to trust in the Lord, reliance on worldly powers, and unfairness in one's dealings with others. There is also some indication that hope is offered because of God's love rather than the good behaviors of his people (e.g., 16:5, 38:17, chapter 43). This brief report examines the emotional tone of segments of *Isaiah*, quantified in terms of the pleasantness scale from the Dictionary of Affect (Whissell, 2009). Since *Isaiah*, employing visionary poetic language, alternates repeatedly between segments declaring judgment, condemnation, or bitterness and those offering hope, it is predicted that there will be strong and frequent changes in the quantified pleasantness of the text.

METHOD

The Dictionary of Affect was developed to score modern English, so the research employs the modern English dynamic translation text of *Isaiah* from the *New International Version* (NIV) of 1984, *Isaiah* is subdivided into 102 labeled segments (Table 1), following the literal translation of the *English Standard Version* (ESV; Lutheran Study Bible: English Standard Version, 2009). The Dictionary of Affect includes emotional scores assigned to words by raters (Whissell, 2009) for 8740 words. Words such as "attacks", "weapon", "violence", and "prisoners" carry very low pleasantness ratings and give an unpleasant tone to the segment that includes them. On the other hand, words such as "festival", "innocence", "support", and "precious" carry very high pleasantness ratings and give a pleasant tone.

Dictionary scoring proceeds on a word-by-word basis: each word in a text is matched to the Dictionary and the text is represented by the average score. For example, when the words in the opening of chapter 40 are looked up in the Dictionary, there is a pleasantness score associated with them: "Comfort (119), comfort (119) my (79) people (76), says (39) your (42) God (79)." On the transformed scale reported here, possible scores for pleasantness range from -1 to 122, with passages having an average of 50. This sample has an average score of 79 for pleasantness, which is high. In comparison, one might consider verse 4 from chapter 13 which describes the coming destruction of Babylon: "The (44) Lord (72) Almighty (?) is (52) mustering (?) an (29) army (8) for (33) war (-1)." The pleasantness average for this sentence is 34, less than half that of the previous example. These snippets illustrate two facts of Dictionary scoring. First, not all words are matched by the Dictionary and second, not all words in a sample have the same emotional connotations. Language is naturally variable.

RESULTS

Isaiah included 34,332 words, 88% of which were matched and scored. The average pleasantness tone (norm) for samples of everyday English is 50. The average for Isaiah was close to this: 49.70. Segments ranged in pleasantness from a low of 44.08 to a high of 56.94 (Table 1). Average segment length was 337 words. According to a one-way analysis of variance, there were significant differences among segments ($F_{101,30193}$=2.85, p<.001, η^2=.01).

The column "Bar" of Table 1 allows for a quick visual assessment of which segments were high and which low in pleasantness. For example, "Comfort for God's People" (58) has a long bar and is very pleasant while "A Sign Against Egypt and Cush" (32) has a short bar and is very unpleasant. Notably, bars do not remain constant in size but rather get longer and shorter repeatedly, in a wave-like pattern, illustrating frequent changes in tone. The final column of Table 1 reports on changes in emotional tone from one segment to the next, employing a global estimate of two standard errors. The direction of significant change ($p<.05$, two-tailed) is noted. There were 49 (out of 64 possible) significant changes in emotional tone between adjacent segments. Readers of *Isaiah* are sailing on a sea of emotion with multiple peaks and troughs and changing their emotional focus with every few hundred words.

CONCLUSIONS

The main conclusion of this research is that *Isaiah* is very changeable in emotional tone: changes are frequent and abrupt, with the implication being that this might contribute to the problems that naive readers encounter when addressing the work. If the segments in Table 1 were read in order of pleasantness (which would not do much violence to the text as it is not ordered in a strictly chronological manner), much of the confusion would disappear. However, it is entirely possible that the author fully intended to invite comparisons between the two extremes of his message by alternating them.

Table 1 offers additional interesting information. For example. the most pleasant segment of *Isaiah* is "The Lord is my Strength and my Song" (21). The least pleasant segment is "Israel's Failure to Hear and See" (65). Segments typically read in churches at Christmas (e.g., 15, 57) are more pleasant while those typically read during Lent (e.g., 82) are less so. The labels employed (ESV) are validated by Table 1 because there is a strong agreement between information in the label of each segment and its pleasantness, with few exceptions. These exceptions should lead to a closer examination of the text. "An Oracle Concerning Cush" (29), one of a string of what are assumed to be condemnatory oracles, has a much longer pleasantness bar than adjacent segments. This is because the first half of the segment describes Cush in positive terms, the next quarter describes the Lord's punishment of Cush, and the final quarter describes how Cush will praise the Lord (again in positive terms), leading to an overall emotional positivity for the segment in spite of its prediction of punishment.

As illustrated by the quoted verses at the beginning of this article, there are changes in emotional stance even within chapters, and occasionally the person being addressed also changes when the text transitions from judgment to hope (or vice versa). *Isaiah* is a far from easy work to comprehend. The use of subheadings and emotional scoring gives readers additional tools to deploy in their efforts to understand it.

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Table 1 The Pleasantness of 102 segments of Isaiah and changes between segments.

Segment	Citation	Label	Pleasantness	Bar	Change
1	1:1	Introduction	47.96	*****	
2	1:2-1:20	Wickedness of Judah	49.93	*******	
3	1:21-1:31	The Unfaithful City	52.10	********	Up
4	2:1-2:5	The Mountain of the Lord	49.06	******	Down
5	2:6-2:22	The Day of the Lord	48.40	*****	
6	3:1-4:1	Judgment on Judah and Jerusalem	49.82	*******	
7	4:2-4:6	The Branch of the Lord Glorified	53.10	**********	Up
8	5:1-5:7	The Vineyard of the Lord Destroyed	50.06	*******	Down
9	5:8-5:30	Woe to the Wicked	47.82	*****	Down
10	6:1-6:7	Isaiah's Vision of the Lord	51.49	********	Up
11	6:8-6:13	Isaiah’s Commission from the Lord	50.35	*******	
12	7:1-7:9	Isaiah Sent to King Ahaz	45.98	***	Down
13	7:10-7:25	The Sign of Immanuel	49.29	******	Up
14	8:1-8:10	The Coming Assyrian Invasion	48.40	*****	
15	8:11-8:22	Fear God, Wait for the Lord	46.28	***	Down
16	9:1-9:7	For to Us a Child is Born	50.07	*******	Up
17	9:8-10:4	Judgment on Arrogance and Oppression	46.40	***	Down
18	10:5-10:19	Judgment on Arrogant Assyria	49.59	*******	Up
19	10:20-10:34	The Remnant of Israel will Return	46.82	****	Down
20	11:1-11:16	The Righteous Reign of the Branch	48.40	*****	
21	12:1-12:6	The Lord is My Strength and My Song	56.94	**********	Up
22	13:1-13:22	The Judgment of Babylon	49.94	*******	Down
23	14:1-14:2	The Restoration of Jacob	46.55	****	Down
24	14:3-14:23	Israel's Remnant Taunts Babylon	47.91	*****	
25	14:24-14:27	An Oracle Concerning Assyria	47.80	*****	
26	14:28-14:32	An Oracle Concerning Philistia	48.55	******	
27	15:1-16:12	An Oracle Concerning Moab	46.63	****	
28	17:1-17:14	An Oracle Concerning Damascus	48.46	*****	
29	18:1-18:7	An Oracle Concerning Cush	51.01	********	Up
30	19:1-19:15	An Oracle Concerning Egypt	46.96	****	Down
31	19:16-19:24	Egypt, Assyria, Israel Blessed	49.59	*******	Up
32	20:1-20:6	A Sign Against Egypt and Cush	44.89	**	Down
33	21:1-21:17	Fallen, Fallen, is Babylon	48.93	******	Up
34	22:1-22:25	An Oracle Concerning Jerusalem	48.23	*****	
35	23:1-23:18	An Oracle Concerning Tyre and Sidon	48.40	*****	
36	24:1-24:23	Judgment on the Whole Earth	48.56	******	
37	25:1-25:12	God Will Swallow up Death Forever	51.18	********	Up
38	26:1-26:21	You Keep Him in Perfect Peace	50.58	********	
39	27:1-27:13	The Redemption of Israel	48.07	*****	Down
40	28:1-28:13	Judgment on Ephraim and Jerusalem	49.97	*******	
41	28:14-28:29	A Cornerstone in Zion	47.25	****	Down
42	29:1-29:24	The Siege of Jerusalem	49.87	*******	Up
43	30:1-30:7	Do Not Go Down to Egypt	44.89	**	Down
44	30:8-30:17	A Rebellious People	48.14	*****	Up
45	30:18-30:33	The Lord will be Gracious	50.57	********	Up

46	31:1-31:9	Woe to those who go Down to Egypt	47.36	****	Down
47	32:1-32:8	A King will Reign in Righteousness	50.40	*******	Up
48	32:9-32:20	Complacent Women Warned of Disaster	52.70	**********	Up
49	33:1-33:24	O Lord, be Gracious to Us	50.48	*******	Down
50	34:1-34:17	Judgment on the Nations	48.47	*****	Down
51	35:1-35:10	The Ransomed Shall Return	50.94	********	Up
52	36:1-36:22	Sennacherib Invades Judah	48.35	*****	Down
53	37:1-37:13	Hezekiah Seeks Isaiah's Help	47.92	*****	
54	37:14-37:20	Hezekiah's Prayer for Deliverance	51.36	********	Up
55	37-21-37:38	Sennacherib's Fall	50.19	*******	
56	38:1-38:21	Hezekiah's Sickness and Recovery	52.03	*********	
57	39:1-39:8	Envoys from Babylon	49.64	*******	Down
58	40:1-40:5	Comfort for God's People	54.67	**********	Up
59	40:6-40:8	The Word of God Stands Forever	52.93	**********	
60	40:9-40:31	The Greatness of God	48.24	*****	Down
61	41:1-41:20	Fear Not, For I am With You	49.91	*******	
62	41:21-41:29	The Futility of Idols	47.42	****	Down
63	42:1-42:9	The Lord's Chosen Servant	51.91	*********	Up
64	42:10-42:17	Sing to the Lord a New Song	53.35	**********	
65	42:18-42:25	Israel's Failure to Hear and See	44.08	*	Down
66	43:1-43:28	Israel's Only Savior	51.75	*********	Up
67	44:1-44:5	Israel, the Lord's Chosen	51.67	*********	
68	44:6-44:8	Besides Me, there is No God	46.94	****	Down
69	44:9-44:20	The Folly of Idolatry	47.01	****	
70	44:21-44:28	The Lord Redeems Israel	52.10	*********	Up
71	45:1-45:13	Cyrus, God's Instrument	50.25	*******	
72	45:14-45:25	The Lord, the Only Savior	48.55	******	
73	46:1-46:13	The Idols of Babylon and the One True God	49.35	******	
74	47:1-47:15	The Humiliation of Babylon	47.04	****	Down
75	48:1-48:11	Israel Refined for God's Glory	48.13	*****	
76	48:12-48:22	The Lord's Call to Israel	52.97	**********	Up
77	49:1-49:7	The Servant of the Lord	53.31	**********	
78	49:8-49:26	The Restoration of Israel	51.29	********	Down
79	50:1-50:11	Israel's Sin and the Servant's Obedience	51.58	*********	
80	51:1-51:23	The Lord's Comfort for Zion	51.30	********	
81	52:1-52:12	The Lord's Coming Salvation	51.51	*********	
82	52:13-53:12	He was Wounded for Our Transgressions	48.16	*****	Down
83	54:1-54:17	The Eternal Covenant of Peace	50.30	*******	Up
84	55:1-55:13	The Compassion of the Lord	52.06	*********	
85	56:1-56:8	Salvation for Foreigners	52.33	*********	
86	56:9-56:12	Israel's Irresponsible Leaders	49.04	******	Down
87	57:1-57:13	Israel's Futile Idolatry	47.81	*****	
88	57:14-57:21	Comfort for the Contrite	52.54	**********	Up
89	58:1-58:14	True and False Fasting	50.91	********	
90	59:1-59:15	Evil and Oppression	47.85	*****	Down
91	59:16-59:21	Judgment and Redemption	46.19	***	

92	60:1-60:22	The Future Glory of Israel	51.59	*********	Up
93	61:1-61:11	The Year of the Lord's Favor	52.15	*********	
94	62:1-62:12	Zion's Coming Salvation	52.09	*********	
95	63:1-63:6	The Lord's Day of Vengeance	48.91	******	Down
96	63:7-63:14	The Lord's Mercy Remembered	51.66	*********	Up
97	63:15-64:12	Prayer for Mercy	49.88	*******	
98	65:1-65:16	Judgment and Salvation	50.97	********	
99	65:17-65:35	New Heavens and a New Earth	51.10	********	
100	66:1-66:6	The Humble and Contrite in Spirit	50.64	********	
101	66:7-66:14	Rejoice with Jerusalem	55.44	**********	Up
102	66:15-66:24	Final Judgment and Glory of the Lord	49.84	*******	Down

Segment: Segment of Isaiah (n=102): segments are numbered in order of appearance.
Citation: Chapter and verse citation for the beginning and end of the segment.
Label: Label for the segment based on that from the ESV Bible.
Pleasantness: Pleasantness mean for the segment (Overall M=49.70, Range=44.08-56.94).
Bar: a bar whose length represents pleasantness (Overall M=7 asterisks, Range=1-14 asterisks).
Change: Direction of change in pleasantness. Each segment is compared to the previous one. If their mean difference exceeds a global estimate of two standard errors (2.33) pleasantness is labeled as going "Up" (n=25) or "Down" (n=24), depending on the direction of the change.