Dictionary of Ayurveda by Dr. Ravindra Sharma and the Graphical Law

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Abstract

We study Dictionary of Ayurveda by Dr. Ravindra Sharma belonging to the Green Foundation, Dehradun, India. We draw the natural logarithm of the number of entries, normalised, starting with a letter vs the natural logarithm of the rank of the letter, normalised. We conclude that the Dictionary can be characterised by BW(c=0.01), the magnetisation curve of the Ising Model in the Bragg-Williams approximation in the presence of external magnetic field, H. $c = \frac{H}{\gamma\epsilon} = 0.01$ with ϵ being the strength of coupling between two neighbouring spins in the Ising Model, γ representing the number of nearest neighbours of a spin, which is very large.

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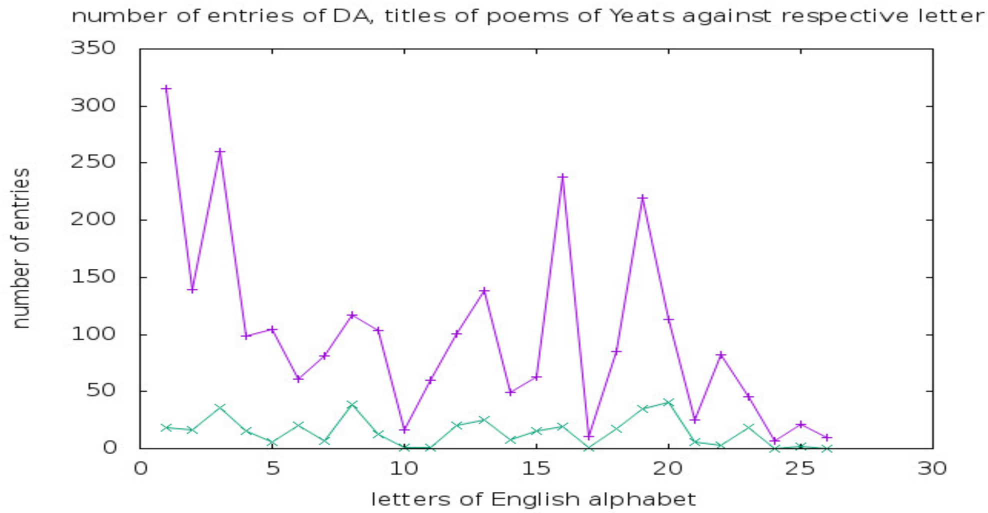

FIG. 1. The vertical axis is number of entries. The upper line corresponds to the entries of Dictionary of Ayurveda(DA),[3]. The lower line corresponds to the titles of W. B. Yeats, The Poems, [1]. The horizontal axis is the letters of the English alphabet. Letters are represented by the sequence number in the alphabet.

I. INTRODUCTION

The English poet, W. B. Yeats, had a course on Upanishad under his teacher Mohini Chatterjee, [1]. Mohini Chatterjee was immortalised through one of his poems. We do not know whether the poet had been introduced to Ayurveda or, not. Neither do we know whether the absent minded poet pondered on furthering Ayurveda, during his episodes of illness. Studying his poems and looking for the Graphical Law, [2], drawing the natural logarithm of the number of the titles of the poems, normalised, starting with a letter vs the natural logarithm of the rank of the letter, normalised, we have surmised that W. B. Yeats, The Poems, [1], can be characterised by BW(c=0.01), the magnetisation curve of the Ising Model in the Bragg-Williams approximation in the presence of external magnetic field, H. $c = \frac{H}{\gamma\epsilon} = 0.01$ with ϵ being the strength of coupling between two neighbouring spins in the Ising Model, γ representing the number of nearest neighbours of a spin, which is very large. Studying Dictionary of Ayurveda, [3], we stumble on the same Graphical Law characterisation and the figure, fig.1. Rest of the paper goes on to detail on the characterisation.

To narrate the precedence, we have started considering magnetic field pattern in [4], in the languages we converse with. We have studied there, a set of natural languages, [4] and have found existence of a magnetisation curve under each language. We have termed this phenomenon as graphical law.

Then, we moved on to investigate into, [5], dictionaries of five disciplines of knowledge and found existence of a curve magnetisation under each discipline. This was followed by finding of the graphical law behind the bengali language,[6] and the basque language[7]. This was pursued by finding of the graphical law behind the Romanian language, [8], five more disciplines of knowledge, [9], Onsager core of Abor-Miri, Mising languages,[10], Onsager Core of Romanised Bengali language,[11], the graphical law behind the Little Oxford English Dictionary, [12], the Oxford Dictionary of Social Work and Social Care, [13], the Visayan-English Dictionary, [14], Garo to English School Dictionary, [15], Mursi-English-Amharic Dictionary, [16] and Names of Minor Planets, [17], A Dictionary of Tibetan and English, [18], Khasi English Dictionary, [19], Turkmen-English Dictionary, [20], Websters Universal Spanish-English Dictionary, [21], A Dictionary of Modern Italian, [22], Langenscheidt's German-English Dictionary, [23], Essential Dutch dictionary by G. Quist and D. Strik, [24], Swahili-English dictionary by C. W. Rechenbach, [25], Larousse Dictionnaire De Poche for the French, [26], the Onsager's solution behind the Arabic, [27], the graphical law behind Langenscheidt Taschenwörterbuch Deutsch-Englisch / Englisch-Deutsch, Völlige Neubearbeitung, [28], the graphical law behind the NTC's Hebrew and English Dictionary by Arie Comey and Naomi Tsur, [29], the graphical law behind the Oxford Dictionary Of Media and Communication, [30], the graphical law behind the Oxford Dictionary Of Mathematics, Penguin Dictionary Of Mathematics, [31], the Onsager's solution behind the Arabic Second part, [32], the graphical law behind the Penguin Dictionary Of Sociology, [33], behind the Concise Oxford Dictionary Of Politics, [34], a Dictionary Of Critical Theory by Ian Buchanan, [35], the Penguin Dictionary Of Economics, [36], the Concise Gojri-English Dictionary by Dr. Rafeeq Anjum, [37], A Dictionary of the Kachin Language by Rev.O.Hanson, [38], A Dictionary Of World History by Edmund Wright, [39], Ekagi-Dutch-English-Indonesian Dictionary by J. Steltenpool, [40], A Dictionary of Plant Sciences by Michael Allaby, [41], respectively. The graphical law was pursued more in Along the side of the Onsager's solution, the Ekagi language ,[42], Along the side of the Onsager's solution, the Ekagi language-Part Three, [43], Oxford Dictionary of Biology by Robert S. Hine and the Graphical law, [44], A Dictionary of the Mikir Language by G. D. Walker and the Graphical law, [45], A Dictionary of Zoology by Michael Allaby and the Graphical Law, [46], Dictionary of all Scriptures and Myths by G. A. Gaskell and the Graphical Law, [47], Dictionary of Culinary Terms by Philippe Pilibossian and the Graphical law, [48], A Greek and English Lexicon by H.G.Liddle et al simplified by Didier Fontaine and the Graphical law, [49], Learner's Mongol-English Dictionary and the Graphical law, [50], Complete Bulgarian-English Dictionary and the Graphical law, [51], A Dictionary of Sindhi Literature by Dr. Motilal Jotwani and the Graphical Law, [52], Penguin Dictionary of Physics, the Fourth Edition, by John Cullerne, and the Graphical law, [53], Oxford Dictionary of Chemistry, the seventh edition and the Graphical Law, [54], A Burmese-English Dictionary, Part I-Part V, by J. A. Stewart and C. W. Dunn et al, head entries and the Graphical Law, [55], The Graphical Law behind the head words of Dictionary Kannada and English written by W. Reeve, revised, corrected and enlarged by Daniel Sanderson, [56], Sanchayita and the Graphical Law, [57], Samsad Bangla Abhidan and The Graphical Law, [58], Bangiya Sabdakosh and The Graphical Law, [59], Samsad Bengali-English Dictionary and The Graphical Law, [60], Rudyard Kipling's Verse and the Graphical Law, [61], W. B. Yeats, The Poems and the Graphical Law, [2], The Penguin Encyclopedia of Places by W. G. Moore and the Graphical law, [62], The Poems of Tennyson and the Graphical Law, [63], Khasi-Jaintia Jaids(Surnames) and the Graphical law, [64], Age, Amplitude of accommodation and the Graphical law, [65], respectively.

We describe how the Graphical Law is hidden within Dictionary of Ayurveda by Dr. Ravindra Sharma from Dehradun, [3], in this article. The planning of the paper is as follows. We give an introduction to the standard curves of magnetisation of Ising model in the section II. In the section III, we describe the analysis of Dictionary of Ayurveda, [3]. The section IV is Acknowledgment. The last section is Bibliography.

II. MAGNETISATION

A. Bragg-Williams approximation

Let us consider a coin. Let us toss it many times. Probability of getting head or, tale is half i.e. we will get head and tale equal number of times. If we attach value one to head, minus one to tale, the average value we obtain, after many tossing is zero. Instead let us consider a one-sided loaded coin, say on the head side. The probability of getting head is more than one half, getting tale is less than one-half. Average value, in this case, after many tossing we obtain is non-zero, the precise number depends on the loading. The loaded coin is like ferromagnet, the unloaded coin is like para magnet, at zero external magnetic field. Average value we obtain is like magnetisation, loading is like coupling among the spins of the ferromagnetic units. Outcome of single coin toss is random, but average value we get after long sequence of tossing is fixed. This is long-range order. But if we take a small sequence of tossing, say, three consecutive tossing, the average value we obtain is not fixed, can be anything. There is no short-range order.

Let us consider a row of spins, one can imagine them as spears which can be vertically up or, down. Assume there is a long-range order with probability to get a spin up is two third. That would mean when we consider a long sequence of spins, two third of those are with spin up. Moreover, assign with each up spin a value one and a down spin a value minus one. Then total spin we obtain is one third. This value is referred to as the value of long-range order parameter. Now consider a short-range order existing which is identical with the long-range order. That would mean if we pick up any three consecutive spins, two will be up, one down. Bragg-Williams approximation means short-range order is identical with long-range order, applied to a lattice of spins, in general. Row of spins is a lattice of one dimension.

Now let us imagine an arbitrary lattice, with each up spin assigned a value one and a down spin a value minus one, with an unspecified long-range order parameter defined as above by $L=\frac{1}{N}\Sigma_i\sigma_i$, where σ_i is i-th spin, N being total number of spins. L can vary from minus one to one. $N=N_{+}+N_{-}$, where N_{+} is the number of up spins, N_{-} is the number of down spins. $L=\frac{1}{N}(N_{+}-N_{-})$. As a result, $N_{+}=\frac{N}{2}(1+L)$ and $N_{-}=\frac{N}{2}(1-L)$. Magnetisation or, net magnetic moment , M is $\mu\Sigma_i\sigma_i$ or, $\mu(N_{+}-N_{-})$ or, μNL, $M_{max}=\mu N$. $\frac{M}{M_{max}}=L$. $\frac{M}{M_{max}}$ is referred to as reduced magnetisation. Moreover, the Ising Hamiltonian,[67], for the lattice of spins, setting μ to one, is $-\epsilon\Sigma_{n.n}\sigma_i\sigma_j-H\Sigma_i\sigma_i$, where n.n refers to nearest neighbour pairs. The difference $\triangle E$ of energy if we flip an up spin to down spin is, [68], $2\epsilon\gamma\bar{\sigma}+2H$, where γ is the number of nearest neighbours of a spin. According to Boltzmann principle, $\frac{N_{-}}{N_{+}}$ equals $exp(-\frac{\triangle E}{k_BT})$, [69]. In the Bragg-Williams approximation,[70], $\bar{\sigma}=L$, considered in the thermal average sense. Consequently,

$$ln\frac{1+L}{1-L}=2\frac{\gamma\epsilon L+H}{k_BT}=2\frac{L+\frac{H}{\gamma\epsilon}}{\frac{T}{\gamma\epsilon/k_B}}=2\frac{L+c}{\frac{T}{T_c}} \qquad (1)$$

where, $c=\frac{H}{\gamma\epsilon}$, $T_c=\gamma\epsilon/k_B$, [71]. $\frac{T}{T_c}$ is referred to as reduced temperature.

Plot of L vs $\frac{T}{T_c}$ or, reduced magentisation vs. reduced temperature is used as reference curve. In the presence of magnetic field, $c \neq 0$, the curve bulges outward. Bragg-Williams is a Mean Field approximation. This approximation holds when number of neighbours interacting with a site is very large, reducing the importance of local fluctuation or, local order, making the long-range order or, average degree of freedom as the only degree of freedom of the lattice. To have a feeling how this approximation leads to matching between experimental and Ising model prediction one can refer to FIG.12.12 of [68]. W. L. Bragg was a professor of Hans Bethe. Rudolf Peierls was a friend of Hans Bethe. At the suggestion of W. L. Bragg, Rudolf Peierls following Hans Bethe improved the approximation scheme, applying quasi-chemical method.

B. Bethe-peierls approximation in presence of four nearest neighbours, in absence of external magnetic field

In the approximation scheme which is improvement over the Bragg-Williams, [67],[68],[69],[70],[71], due to Bethe-Peierls, [72], reduced magnetisation varies with reduced temperature, for γ neighbours, in absence of external magnetic field, as

$$\frac{ln\frac{\gamma}{\gamma-2}}{ln\frac{factor-1}{factor^{\frac{\gamma-1}{\gamma}}-factor^{\frac{1}{\gamma}}}} = \frac{T}{T_c}; factor = \frac{\frac{M}{M_{max}}+1}{1-\frac{M}{M_{max}}}. \tag{2}$$

$ln\frac{\gamma}{\gamma-2}$ for four nearest neighbours i.e. for $\gamma = 4$ is 0.693. For a snapshot of different kind of magnetisation curves for magnetic materials the reader is urged to give a google search "reduced magnetisation vs reduced temperature curve". In the following, we describe data s generated from the equation(1) and the equation(2) in the table, I, and curves of magnetisation plotted on the basis of those data s. BW stands for reduced temperature in Bragg-Williams approximation, calculated from the equation(1). BP(4) represents reduced temperature in the Bethe-Peierls approximation, for four nearest neighbours, computed from the equation(2). The data set is used to plot fig.2. Empty spaces in the table, I, mean corresponding point pairs were not used for plotting a line.

BW	BW(c=0.01)	BP(4,βH = 0)	reduced magnetisation
0	0	0	1
0.435	0.439	0.563	0.978
0.439	0.443	0.568	0.977
0.491	0.495	0.624	0.961
0.501	0.507	0.630	0.957
0.514	0.519	0.648	0.952
0.559	0.566	0.654	0.931
0.566	0.573	0.7	0.927
0.584	0.590	0.7	0.917
0.601	0.607	0.722	0.907
0.607	0.613	0.729	0.903
0.653	0.661	0.770	0.869
0.659	0.668	0.773	0.865
0.669	0.676	0.784	0.856
0.679	0.688	0.792	0.847
0.701	0.710	0.807	0.828
0.723	0.731	0.828	0.805
0.732	0.743	0.832	0.796
0.756	0.766	0.845	0.772
0.779	0.788	0.864	0.740
0.838	0.853	0.911	0.651
0.850	0.861	0.911	0.628
0.870	0.885	0.923	0.592
0.883	0.895	0.928	0.564
0.899	0.918		0.527
0.904	0.926	0.941	0.513
0.946	0.968	0.965	0.400
0.967	0.998	0.965	0.300
0.987		1	0.200
0.997		1	0.100
1	1	1	0

TABLE I. Reduced magnetisation vs reduced temperature data s for Bragg-Williams approximation, in absence of and in presence of magnetic field, $c = \frac{H}{\gamma\epsilon} = 0.01$, and Bethe-Peierls approximation in absence of magnetic field, for four nearest neighbours.

C. Bethe-peierls approximation in presence of four nearest neighbours, in presence of external magnetic field

In the Bethe-Peierls approximation scheme , [72], reduced magnetisation varies with reduced temperature, for γ neighbours, in presence of external magnetic field, as

$$\frac{ln\frac{\gamma}{\gamma-2}}{ln\frac{factor-1}{e^{\frac{2\beta H}{\gamma}} factor^{\frac{\gamma-1}{\gamma}} - e^{-\frac{2\beta H}{\gamma}} factor^{\frac{1}{\gamma}}}} = \frac{T}{T_c}; factor = \frac{\frac{M}{M_{max}}+1}{1-\frac{M}{M_{max}}}. \tag{3}$$

Derivation of this formula Ala [72] is given in the appendix of [9].

$ln\frac{\gamma}{\gamma-2}$ for four nearest neighbours i.e. for $\gamma = 4$ is 0.693. For four neighbours,

$$\frac{0.693}{ln\frac{factor-1}{e^{\frac{2\beta H}{\gamma}} factor^{\frac{\gamma-1}{\gamma}} - e^{-\frac{2\beta H}{\gamma}} factor^{\frac{1}{\gamma}}}} = \frac{T}{T_c}; factor = \frac{\frac{M}{M_{max}}+1}{1-\frac{M}{M_{max}}}. \tag{4}$$

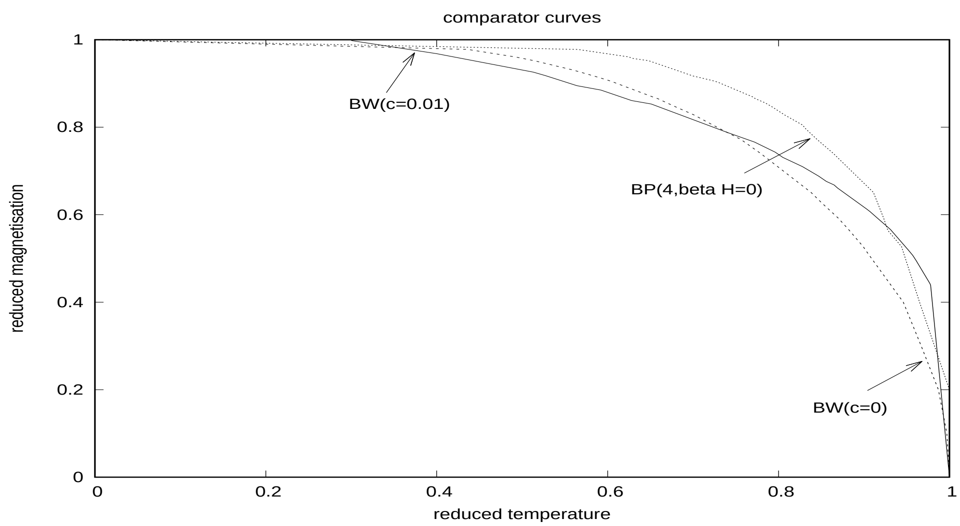

FIG. 2. Reduced magnetisation vs reduced temperature curves for Bragg-Williams approximation, in absence(dark) of and presence(inner in the top) of magnetic field, $c = \frac{H}{\gamma\epsilon} = 0.01$, and Bethe-Peierls approximation in absence of magnetic field, for four nearest neighbours (outer in the top).

In the following, we describe data s in the table, II, generated from the equation(4) and curves of magnetisation plotted on the basis of those data s. BP(m=0.03) stands for reduced temperature in Bethe-Peierls approximation, for four nearest neighbours, in presence of a variable external magnetic field, H, such that $\beta H = 0.06$. calculated from the equation(4). BP(m=0.025) stands for reduced temperature in Bethe-Peierls approximation, for four nearest neighbours, in presence of a variable external magnetic field, H, such that $\beta H = 0.05$. calculated from the equation(4). BP(m=0.02) stands for reduced temperature in Bethe-Peierls approximation, for four nearest neighbours, in presence of a variable external magnetic field, H, such that $\beta H = 0.04$. calculated from the equation(4). BP(m=0.01) stands for reduced temperature in Bethe-Peierls approximation, for four nearest neighbours, in presence of a variable external magnetic field, H, such that $\beta H = 0.02$. calculated from the equation(4). BP(m=0.005) stands for reduced temperature in Bethe-Peierls approximation, for four nearest neighbours, in presence of a variable external magnetic field, H, such that $\beta H = 0.01$. calculated from the equation(4). The data set in the table, II, is used to plot fig.3. Empty spaces in the table, II, mean corresponding point pairs were not used for plotting a line.

BP(m=0.03)	BP(m=0.025)	BP(m=0.02)	BP(m=0.01)	BP(m=0.005)	reduced magnetisation
0	0	0	0	0	1
0.583	0.580	0.577	0.572	0.569	0.978
0.587	0.584	0.581	0.575	0.572	0.977
0.647	0.643	0.639	0.632	0.628	0.961
0.657	0.653	0.649	0.641	0.637	0.957
0.671	0.667		0.654	0.650	0.952
	0.716			0.696	0.931
0.723	0.718	0.713	0.702	0.697	0.927
0.743	0.737	0.731	0.720	0.714	0.917
0.762	0.756	0.749	0.737	0.731	0.907
0.770	0.764	0.757	0.745	0.738	0.903
0.816	0.808	0.800	0.785	0.778	0.869
0.821	0.813	0.805	0.789	0.782	0.865
0.832	0.823	0.815	0.799	0.791	0.856
0.841	0.833	0.824	0.807	0.799	0.847
0.863	0.853	0.844	0.826	0.817	0.828
0.887	0.876	0.866	0.846	0.836	0.805
0.895	0.884	0.873	0.852	0.842	0.796
0.916	0.904	0.892	0.869	0.858	0.772
0.940	0.926	0.914	0.888	0.876	0.740
	0.929			0.877	0.735
	0.936			0.883	0.730
	0.944			0.889	0.720
	0.945				0.710
	0.955			0.897	0.700
	0.963			0.903	0.690
	0.973			0.910	0.680
				0.909	0.670
	0.993			0.925	0.650
		0.976	0.942		0.651
	1.00				0.640
		0.983	0.946	0.928	0.628
		1.00	0.963	0.943	0.592
			0.972	0.951	0.564
			0.990	0.967	0.527
				0.964	0.513
			1.00		0.500
				1.00	0.400
					0.300
					0.200
					0.100
					0

TABLE II. Bethe-Peierls approx. in presence of little external magnetic fields

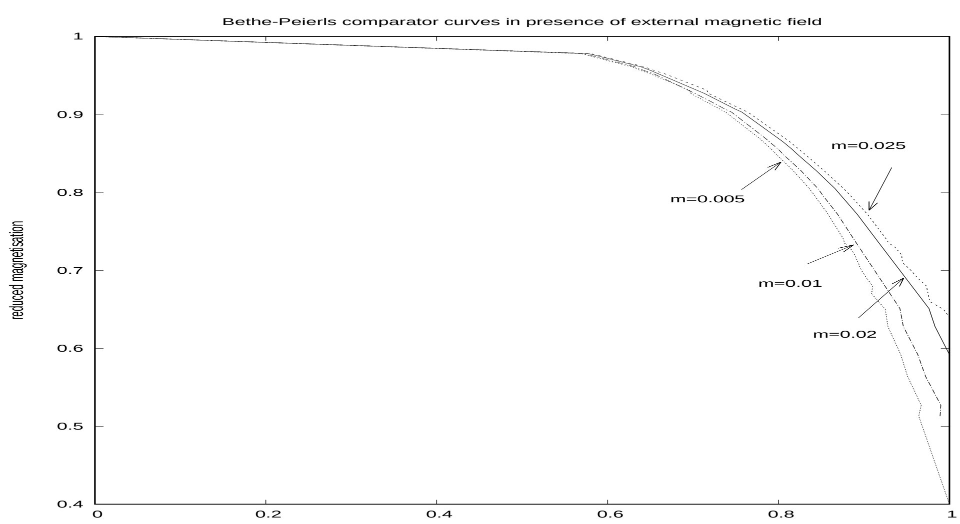

FIG. 3. Reduced magnetisation vs reduced temperature curves for Bethe-Peierls approximation in presence of little external magnetic fields, for four nearest neighbours, with $\beta H = 2m$.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
315	139	260	99	104	61	81	117	103	16	60	101	138	49	63	238	11	85	219	113	25	82	45	7	21	10

TABLE III. Entries of Dictionary of Ayurveda

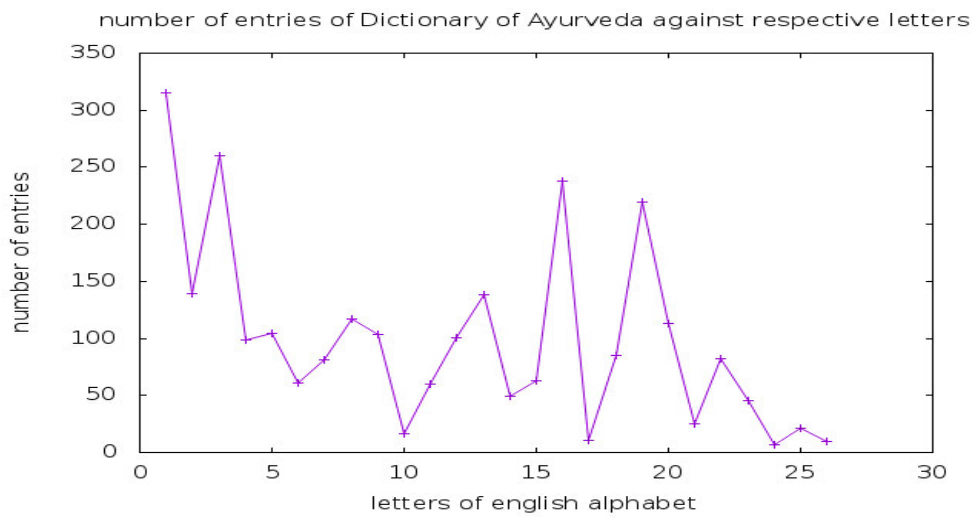

FIG. 4. The vertical axis is number of entries in a Dictionary of Ayurveda,[3]. The horizontal axis is the letters of the English alphabet. Letters are represented by the sequence number in the alphabet.

III. ANALYSIS OF DICTIONARY OF AYURVEDA ENTRIES

Dictionary of Ayurveda composed by Dr. Ravindra Sharma, [3], is well explained, though concise in volume. In this Dictionary of Ayurveda, we have counted the entries, strictly speaking head entries, one by one from the beginning to the end, starting with different letters. The result is the table, III. Highest number of entries, three hundred fifteen, start with the letter A followed by entries numbering two hundred sixty beginning with C, two hundred thirty eight with the letter P etc. To visualise we plot the number of entries again respective letters in the dictionary sequence,[3] in the adjoining figure, fig.4.

For the purpose of exploring graphical law, we assort the letters according to the number of entries, in the descending order, denoted by f and the respective rank, [66], denoted by k. k is a positive integer starting from one. Moreover, we attach a limiting rank, k_{lim}, and a limiting number of entries. The limiting rank is maximum rank plus one, here it is

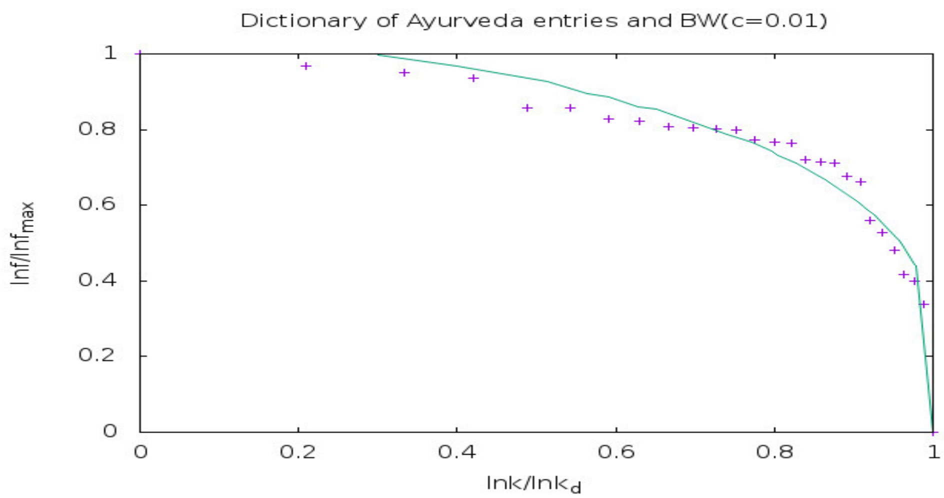

FIG. 5. The vertical axis is $\frac{lnf}{lnf_{max}}$ and the horizontal axis is $\frac{lnk}{lnk_{lim}}$. The + points represent the entries of Dictionary of Ayurveda with the fit curve being the Bragg-Williams curve in the presence of external magnetic field, $c = \frac{H}{\gamma\epsilon} = 0.01$.

twenty seven and the limiting number of entries is one. As a result both $\frac{lnf}{lnf_{max}}$ and $\frac{lnk}{lnk_{lim}}$ varies from zero to one. Then we tabulate in the adjoining table,IV, and plot $\frac{lnf}{lnf_{max}}$ against $\frac{lnk}{lnk_{lim}}$ in the figure fig.5. We then ignore the letter with the highest of entries, tabulate in the adjoining table,IV,and redo the plot, normalising the lnfs with next-to-maximum lnf_{n-max}, and starting from $k = 2$ in the figure fig.6. Normalising the lnfs with next-to-next-to-maximum lnf_{2n-max}, we tabulate in the adjoining table,IV, and starting from $k = 3$ we draw in the figure fig.7. Normalising the lnfs with next-to-next-to-next-to-maximum lnf_{3n-max} we record in the adjoining table,IV, and plot starting from $k = 4$ in the figure fig.8.

k	lnk	lnk/lnk_{lim}	f	lnf	lnf/lnf_{max}	lnf/lnf_{nmax}	lnf/lnf_{2nmax}	lnf/lnf_{3nmax}	lnf/lnf_{4nmax}	lnf/lnf_{5nmax}
1	0	0	315	5.753	1	Blank	Blank	Blank	Blank	Blank
2	0.69	0.209	260	5.561	0.967	1	Blank	Blank	Blank	Blank
3	1.10	0.333	238	5.472	0.951	0.984	1	Blank	Blank	Blank
4	1.39	0.421	219	5.389	0.937	0.969	0.985	1	Blank	Blank
5	1.61	0.488	139	4.934	0.858	0.887	0.902	0.916	1	Blank
6	1.79	0.542	138	4.927	0.856	0.886	0.900	0.914	0.999	1
7	1.95	0.591	117	4.762	0.828	0.856	0.870	0.884	0.965	0.967
8	2.08	0.630	113	4.727	0.822	0.850	0.864	0.877	0.958	0.959
9	2.20	0.667	104	4.644	0.807	0.835	0.849	0.862	0.941	0.943
10	2.30	0.697	103	4.635	0.806	0.833	0.847	0.860	0.939	0.941
11	2.40	0.727	101	4.615	0.802	0.830	0.843	0.856	0.935	0.937
12	2.48	0.752	99	4.595	0.799	0.826	0.840	0.853	0.931	0.933
13	2.56	0.776	85	4.443	0.772	0.799	0.812	0.824	0.900	0.902
14	2.64	0.800	82	4.407	0.766	0.792	0.805	0.818	0.893	0.894
15	2.71	0.821	81	4.394	0.764	0.790	0.803	0.815	0.891	0.892
16	2.77	0.839	63	4.143	0.720	0.745	0.757	0.769	0.840	0.841
17	2.83	0.858	61	4.111	0.715	0.739	0.751	0.763	0.833	0.834
18	2.89	0.876	60	4.094	0.712	0.736	0.748	0.760	0.830	0.831
19	2.94	0.891	49	3.892	0.677	0.700	0.711	0.722	0.789	0.790
20	3.00	0.909	45	3.807	0.662	0.685	0.696	0.706	0.772	0.773
21	3.04	0.921	25	3.219	0.560	0.579	0.588	0.597	0.652	0.653
22	3.09	0.936	21	3.045	0.529	0.548	0.556	0.565	0.617	0.618
23	3.14	0.952	16	2.773	0.482	0.499	0.507	0.515	0.562	0.563
24	3.18	0.964	11	2.398	0.417	0.431	0.438	0.445	0.486	0.487
25	3.22	0.976	10	2.303	0.400	0.414	0.421	0.427	0.467	0.467
26	3.26	0.988	7	1.946	0.338	0.350	0.356	0.361	0.394	0.395
27	3.30	1	1	0	0	0	0	0	0	0

TABLE IV. Dictionary of Ayurveda entries: ranking,natural logarithm,normalisations

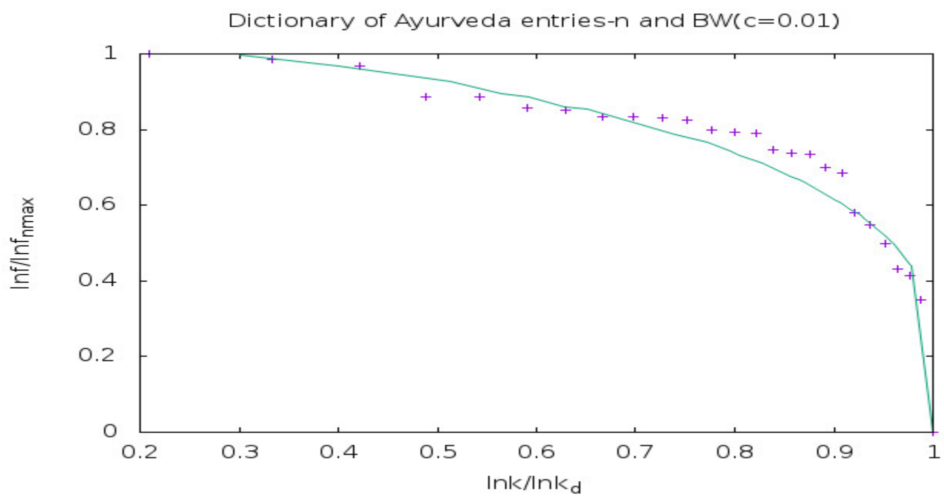

FIG. 6. The vertical axis is $\frac{lnf}{lnf_{n-max}}$ and the horizontal axis is $\frac{lnk}{lnk_{lim}}$. The + points represent the entries of Dictionary of Ayurveda with the fit curve being the Bragg-Williams curve in the presence of external magnetic field, $c = \frac{H}{\gamma\epsilon} = 0.01$.

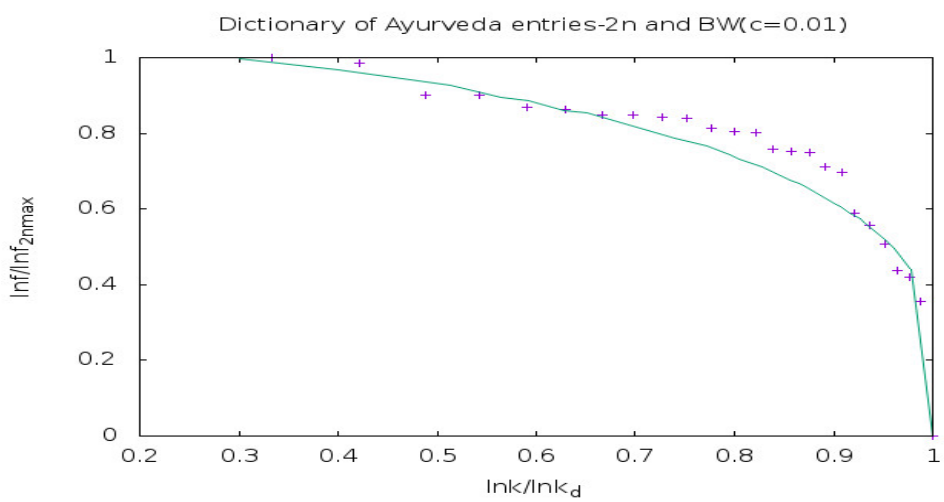

FIG. 7. The vertical axis is $\frac{lnf}{lnf_{2n-max}}$ and the horizontal axis is $\frac{lnk}{lnk_{lim}}$. The + points represent the entries of Dictionary of Ayurveda with the fit curve being the Bragg-Williams curve in the presence of external magnetic field, $c = \frac{H}{\gamma\epsilon} = 0.01$.

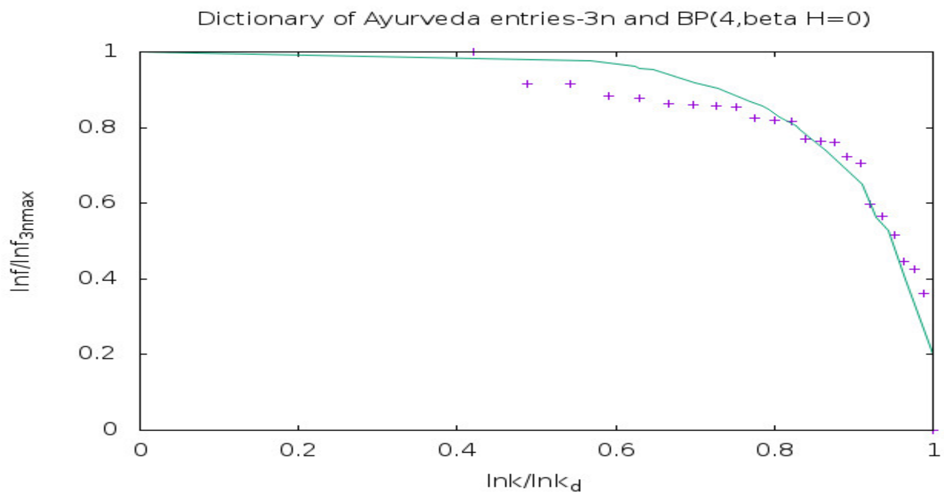

FIG. 8. The vertical axis is $\frac{lnf}{lnf_{3n-max}}$ and the horizontal axis is $\frac{lnk}{lnk_{lim}}$. The + points represent the entries of Dictionary of Ayurveda with the fit curve being the Bethe-Peierls curve in the presence of four nearest neighbours and in the absence of external magnetic field, $m = 0$ or,$\beta H = 0$.

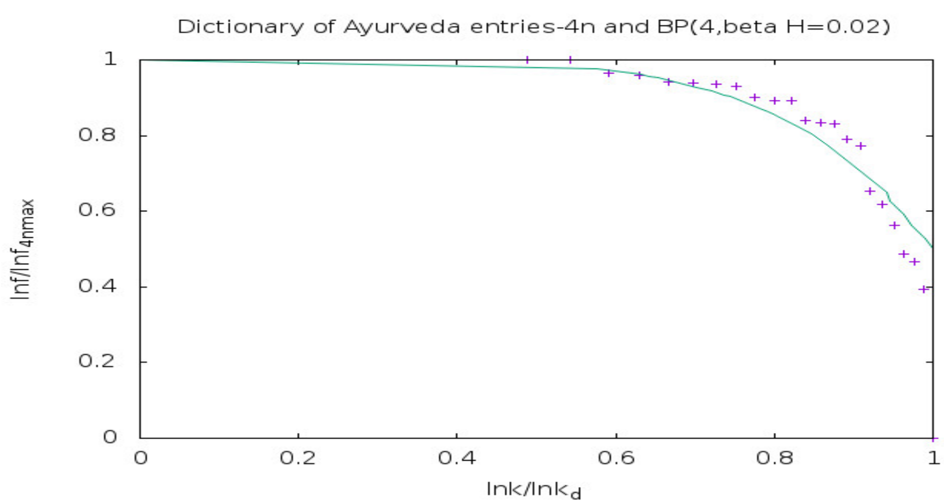

FIG. 9. The vertical axis is $\frac{lnf}{lnf_{4n-max}}$ and the horizontal axis is $\frac{lnk}{lnk_{lim}}$. The + points represent the entries of Dictionary of Ayurveda with the fit curve being the Bethe-Peierls curve in the presence of four nearest neighbours and little external magnetic field, $m = 0.01$ or,$\beta H = 0.02$.

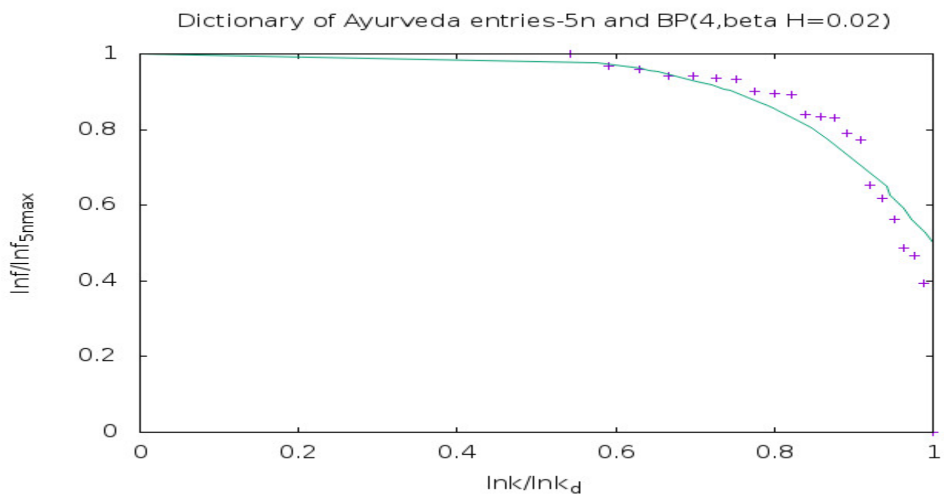

FIG. 10. The vertical axis is $\frac{lnf}{lnf_{5n-max}}$ and the horizontal axis is $\frac{lnk}{lnk_{lim}}$. The + points represent the entries of Dictionary of Ayurveda with the fit curve being the Bethe-Peierls curve in the presence of four nearest neighbours and little external magnetic field, $m = 0.01$ or,$\beta H = 0.02$.

A. conclusion

From the figures (fig.5-fig.10), we observe that there is a curve of magnetisation, BW(c=0.01), behind the entries of Dictionary of Ayurveda,[3]. This is the magnetisation curve in the the Bragg-Williams approximation of the Ising Model in the presence of external magnetic field, H, with $c = \frac{H}{\gamma\epsilon} = 0.01$. ϵ is the strength of coupling between two neighbouring spins in the Ising Model and γ represents the number of nearest neighbours of a spin, which is very large.
Moreover, the associated correspondence is,

$$\frac{lnf}{lnf_{max}} \longleftrightarrow \frac{M}{M_{max}},$$

$$lnk \longleftrightarrow T.$$

k corresponds to temperature in an exponential scale, [73].

IV. ACKNOWLEDGMENT

We have used gnuplot for plotting the figures in this paper. We would like to thank the nehu library for allowing us to use the reference, [3]. It is desirable to do the similar analysis for an all inclusive dictionary of Ayurveda.

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