

From an analysis on how the brain/mind appears to derive meaning, the apparent method used seems to be that of applying recursion to a dichotomy to derive a generic set of qualities that then get customised through association to a specific context. This customisation is in the form of creating a label that reflects the quality-context link. Thus, as neuron-dependent species members, we all have a sense of the quality of 'wholeness' but what is a whole is localised such that a whole in culture A may be interpreted as a part in culture B. (in the spoken/written word we find nouns and verbs reflect the more basic distinction of objects/relationships that reflect the even more basic distinctions of differentiate/integrate. We also find such methods as nominalisation where the method allows a verb to become a noun – in other words we see oscillations across the elements of the dichotomy that serve to derive meaning)

Further analysis of the process of dichotomisation reveals that there appear to be TWO prime forms of dichotomy, one where the elements of the dichotomy are balanced, their absolute values the same, the difference is in their sign – e.g. the dichotomy of +1/-1 or of pepsi-cola/coca-cola. The other is where the elements of the dichotomy reflect an asymmetry, as in, for example, the dichotomy of 0(worthless)/infinity (priceless), or of pepsi&coke/all-other-colas.

The symmetric dichotomy we label as 'Gaussian' where recursion elicits qualities that map to a normal, aka Gaussian, distribution curve. The asymmetric dichotomy we label as 'power law' where recursion elicits qualities that map to a power law representation.

From a hierarchic perspective, the Gaussian dichotomy reflects comparison of elements that come from the same level, whereas the power-law dichotomy reflects comparison of elements spanning levels where this spanning introduces an asymmetry. This asymmetry is reflected in the brain in the differences of differentiating/integrating where issues of precision introduce the asymmetry (differentiating reduces to a unit of measure of ONE; integrating reduces to a unit of measure of no less than a PAIR and as such, comparison of differentiated/integrated reflect qualitative issues of precise vs. approximate.)

By understanding the general elements of power laws we can start to identify these elements in all of the examples of power laws, where these are in the form of specialisations of the one generalisation, the qualities we use to derive meaning.

One useful 'power law' pattern to use in this analysis is the set of qualities used in Chinese five-phase theory that is also present in Western economics thinking. Here we find not five but EIGHT qualities made up of PAIRS within a general context:

Production

Re-production as in cultivation.

Production as in 'new' ideas/concepts that are immediate, sudden.

Distribution

External Distribution – Wholesale activities (get it OUT)

Internal Distribution, known in five-phase as 'Consumption' (Take it IN)

Filtration (Balance,Protect)

Externally-derived filters (given filters as in religious/secular 'rules of conduct')

Internally-derived filters (discernment based on experiences)

Exchange (Exploit)

Cooperative Exchange

Competitive Exchange

Socioeconomic systems common to our species appear to emerge from the filtration and exchange phases. Thus the exchange process we call 'Capitalist' is highly competitive and is derived from the LACK of filtering of interactions other than a belief in "market forces" being allowed to rule. This focus favours opportunism where local anomalies in the exchange process allow for profits to be made, surplus value to be created, prior-to the appearance of the 'balance police' and/or the 'late crowd' turning-up trying to also

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make profits (and so come diminished returns). The dynamic here reflects that of applying recursion to the modernist/traditionalist dichotomy (Kali, 2003).

Increase in filtration allows for the control of capitalist activities through the introduction of ‘agents of balance’ – we can identify three basic forms of agent:

Socialist – focus on PROTECTION of labourers from extremes in exploitation

Conservationist – focus on PROTECTION of natural resources from extremes in exploitation

Interventionist – focus on PROTECTION on extremes in boom/bust activity within a capitalist system due to excess exploitations (and so use of interest rate controls etc)

The overall focus here is on EXPLOITATION/PROTECTION aka EXAGGERATIONS/BALANCE.

When we analyse a power law pattern, so we move from a position that appears to be concerned with the conserving of energy (or more so a general state of undifferentiated) to one that is concerned with the expending of energy, over-differentiated. The above eight qualities become ordered from ‘most conserving’ to ‘most expending’ thus:

Externally-derived filtration

Internally-derived filtration

Internally-derived distribution (consumption)

Externally-derived production (cultivation of others)

Internally-derived production (original ideas etc)

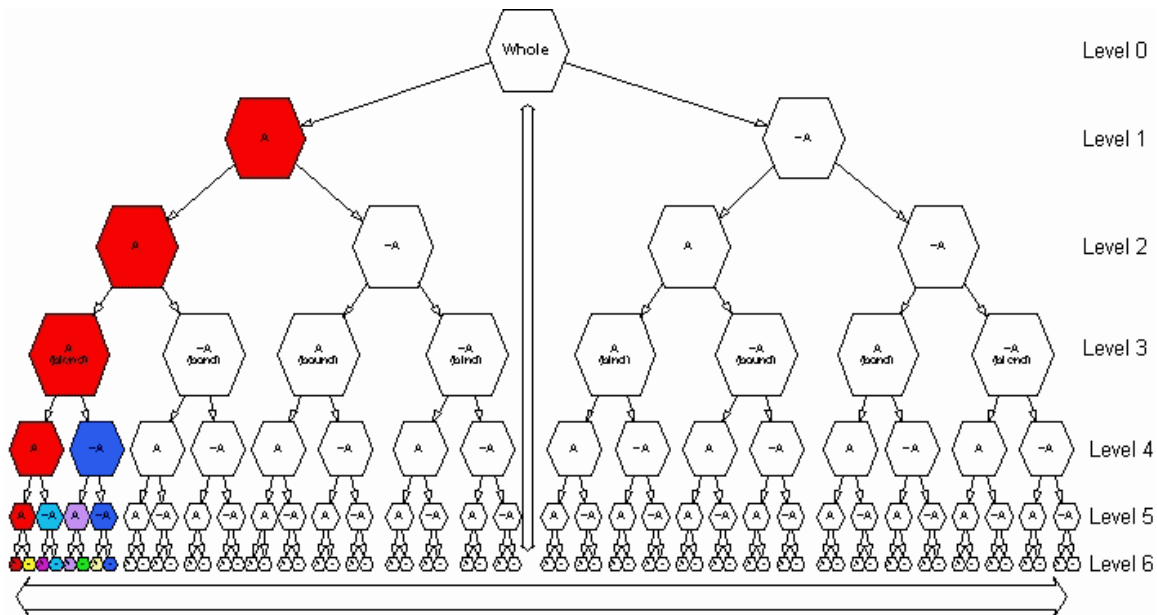
Externally-derived distribution (wholesalers)

Cooperative Exchange

Competitive Exchange

Here we see that ‘Competitive Exchange’ is the most energy-expending of all of the phases and fits well the capitalist mindset of a continuing focus on ‘betterment’, on ‘modernisation’ and so a generic focus on the REPLACEMENT of the existing with something ‘better’ as compared to the introduction of something into a context to COEXIST with others. This latter format allows one to maintain a set of things in a sort of ‘superposition’ where CONTEXT determines the best expression, the best element of the set to fit-in the easiest with the local context. This dichotomy of REPLACE/COEXIST is a power law dichotomy being a synonym for what our brains use to derive meaning – the recursion of the dichotomy of differentiate/integrate.

Analysis of the creation of these categories indicates that the general methodology had to be recursion:



Derivation of a sense of ordinality through recursive dichotomisation applied to a whole. The vertical process (here applied top-down, but can also be applied bottom-up) leads to a fine level of granularity (here limited to level 6) that can be interpreted horizontally. Further recursions lead to what appears as a seamless flow of apparent sequence. This derivation acts to hide the 'lumps' present in that the 'row' or 'line' is actually made-up of 2^{n-1} pairs where n is the level number. Attempts to define clear meaning will discover 'lumps' due to the gaps between the elements in the row. Meaning will thus have at least two interpretations. For example the above 'sequence' can also represent mirroring across the vertical axis. It is proposed that this derivation method reflects right brain/left brain interactions, with the interdigitations in the frontal lobe of both hemispheres manifesting the equivalence of level 6 granularity. Context sensitivity will determine bias in interpretation. In general, left hemisphere is biased to horizontal processing when compared to the right (in most). Meaning is layered where each level adds a degree of meaning that influences the more refined meanings derived later.

Figure 1 - Recursion of the dichotomy of A/NOT-A

Thus the 'power law' emerges in the row 'across' the recursion besides the top-down derivation process that takes us from the whole to ever-increasing fragmentations, whole to parts; general to particular. Watts and Strogatz came up with the dichotomy of regular/random which reflects the dimension in Figure 1 from NOT-A to A (the order in Figure 2 is left to right, but the dynamic in the brain is best represented as right to left; from the more integrating 'right' brain to the more differentiating 'left brain' in most)

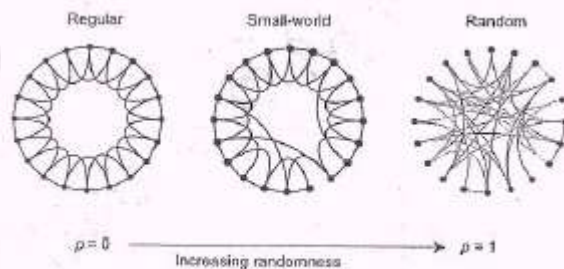


Figure 2 - Random Rewiring Procedure, Watts and Strogatz (1998)

What the fragmentation indicates is that within EACH category, as we zoom-in, we will find a copy of the WHOLE set of categories. Thus WITHIN the category of externally-derived filtration, where that category sets-down the context, we will find all of the categories functioning as text (In the above diagram, the WHOLE of level 3 is repeated eight times at level 6).

Thus fragmentation reflects specialisation that reflects increase in differentiation and so the breakdown of 'integrated' perspectives operating BETWEEN to a focus on integrated perspective WITHIN – in other

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words an overall focus on self-sufficiency, do-it-yourself processes where technology allows the individual to extend their skills into areas they ‘usually’ do not function in. This increase in being self-contained reflects an increase in a competitive outlook in that differentiating means a need to push others AWAY to ensure one maximises personal exposure – noting that the realm of high energy expression is the realm of ‘Universals’, of ‘brand name’ products, methods, properties.

The IDM material (<http://www.austarmetro.com.au/~lofting/myweb/idm001.html>) shows us all of the generic qualities associated with recursion of power law dichotomies.

Since ALL examples of a particular power law share the same generic qualities so we can tabulate those qualities thus, where core qualities are defined in the IDM column and the other columns reflect re-labelling of those core qualities to ‘fit’ a particular context:

Power Law : $y = aX^n$ where $a=1$, $n=2$

Five Phase	IDM	MBTI©	I Ching	Emotions
Economics				
Externally-derived filtration	Contractive Blending	XNFP	Earth	Fear/Devotion
Internally-derived filtration	Contractive Bonding	XNFJ	Mountain	Sadness/Discernment
Internally-focused distribution	Contractive Bounding	XSFJ	Water	Rejection
Externally-derived production (re)	Contractive Binding	XSTJ	Wind	Anticipation
Internally-derived production	Expansive Binding	XNTP	Thunder	Surprise
Externally-focused Distribution	Expansive Bounding	XNTJ	Fire	Acceptance
Cooperative Exchange	Expansive Bonding	XSFP	Lake	Love (sexual)
Competitive Exchange	Expansive Blending	XSTP	Heaven	Anger/Respect

The recursion of the qualities means that for the general quality of ‘externally-derived filtration’ there are eight variations at the first level of recursion:

Context	Text	I Ching qualities	Emotion qualities	Extended MBTI
Externally-derived Filtration	Externally-derived Filtration	Hexagram 02	Fear/devotion doubled	XNFP doubled
Externally-derived Filtration	Internally-derived Filtration	Hexagram 23	Sadness/discernment WITHIN fear/devotion	XNFJ WITHIN XNFP
Externally-derived Filtration	Internally-derived Distribution	Hexagram 08	Rejection WITHIN fear/devotion	XSFJ WITHIN XNFP
Externally-derived Filtration	Externally-focused Production (cultivation)	Hexagram 20	Anticipation WITHIN fear/devotion	XSTJ WITHIN XNFP
Externally-derived Filtration	Internally-focused Production (new ideas)	Hexagram 16	Surprise WITHIN fear/devotion	XNTP WITHIN XNFP
Externally-derived Filtration	Externally-focused Distribution	Hexagram 35	Acceptance WITHIN fear/devotion	XNTJ WITHIN XNFP

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Context	Text	I Ching qualities	Emotion qualities	Extended MBTI
Externally-derived Filtration	Cooperative Exchange	Hexagram 45	Love WITHIN fear/devotion	XSFP WITHIN XNFP
Externally-derived Filtration	Competitive Exchange	Hexagram 12	Anger/respect WITHIN fear/devotion	XSTP WITHIN XNFP

Context	Text	I Ching qualities	Emotion qualities	Extended MBTI
Internally-derived Filtration	Externally-derived Filtration	Hexagram 15	Fear/devotion WITHIN sadness/discernment	XNFP WITHIN XNFJ
Internally-derived Filtration	Internally-derived Filtration	Hexagram 52	Sadness/discernment WITHIN sadness/discernment	XNFJ doubled
Internally-derived Filtration	Internally-derived Distribution	Hexagram 39	Rejection WITHIN fear/devotion	XSFJ WITHIN XNFJ
Internally-derived Filtration	Externally-focused Production (cultivation)	Hexagram 53	Anticipation WITHIN sadness/discernment	XSTJ WITHIN XNFJ
Internally-derived Filtration	Internally-focused Production (new ideas)	Hexagram 62	Surprise WITHIN sadness/discernment	XNTP WITHIN XNFJ
Internally-derived Filtration	Externally-focused Distribution	Hexagram 56	Acceptance WITHIN sadness/discernment	XNTJ WITHIN XNFJ
Internally-derived Filtration	Cooperative Exchange	Hexagram 31	Love WITHIN sadness/discernment	XSFP WITHIN XNFJ
Internally-derived Filtration	Competitive Exchange	Hexagram 33	Anger/respect WITHIN sadness/discernment	XSTP WITHIN XNFJ

Given each column reflects a specialisation of the qualities of the power law, so each specialisation can be used as a source of analogy/metaphor in describing any one of the other specialisations.

References

Watts, D. J. and S. H. Strogatz. (1998) "Collective Dynamics of 'Small-World' Networks", Nature 393:440-442.