

Chess and Go: Strategic Rivalry or Harmonious Balance?

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When troops are deployed on active frontier duty - even in peacetime - the key issues that face commanders are: maintaining morale, vitality and discipline for long periods. Under difficult climatic conditions or in areas far from human habitation, the challenges are multiplied. Such a situation certainly must face both the Indian army and Chinese PLA during their deployment along the Himalayan boundaries. Of course, the time honoured way for armies to cope has been to rely on the routines and rituals of army life. So, frequent briefings, drills, inspections, exercises, sports and marches are orchestrated to keep up high levels of mental and physical alertness amongst the troops. Nevertheless, there is time to spare. Many military men have used such leisure to hone their interests and hobbies. Some have become writers, poets and chroniclers of note. Others have sketched and painted landscapes and portraits. Many have studied the habits and ethnography of the local peoples, and described the countryside and its flora and fauna. Military personnel of many countries throughout history have in particular made pioneering surveys, contributed to cartography and the exploration of many remote areas on our planet has largely been the result of such efforts.

Still, on many a rainy monsoon day or a snowy winter evening, time must hang heavy up there on the Sino-Indian Himalayan boundary. Here, one may imagine some men on each side engaging in their favourite indoor sports. In this article, I would like to take chess and *weiqi* (better known by its Japanese name *Go*) as typical board games that might be the favourites amongst Indian and Chinese troops. After describing these games briefly, I shall go on to offer some insights about how these games might inform and influence brain function and psychology, and thereafter strategy in their respective military and political traditions. Finally, I speculate — hopefully kindling the reader’s interest further

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— about what these games might tell us regarding the emergence of China as an economic and military power.

Chess and Go: Origins and Psychology¹

The exact origins of chess are shrouded in history, but there appears to be general agreement that the game originated in India around the middle of the first millennium A.D. The Indian game known as *chaturanga* was adopted by the Persians and then reached the West (as *shatranj*) through the Arab conquest of Spain. Simply put, in chess, the two opposing teams of white and black pieces are ranged against each other on an 8 x 8 chequered square board. Each team consists of a hierarchy of pieces with differing powers and mobility on the board. The objective of the game is to render the 'King' of the opposing side immobile with no recourse under attack, through a series of moves that capture his pieces and diminish his army.

Weiqi (Chinese for 'board game of surrounding') is regarded as having its origins in China sometime before 500 B.C. From China, the game spread to Korea and then Japan, reaching the latter country in the 7th century. Since the West first heard of *weiqi* through Japan, it is more familiar to most people by its Japanese name *Go*. It is played on a 19 x 19 square with black and white pieces. Unlike chess, where the rival armies are already set on the board when the game starts, in *Go* the board is empty at the start and the pieces are placed one by one in turn by each player. All pieces are identical and have no power of movement once they are placed on the board. The object of the game is to surround and capture more territory than your opponent, through finely judged moves - a balance between attack and defence.

Both chess and *Go* are intellectually demanding games with a capacity to entrance if not enrapture the players. Stories abound of players who sat unmindful amidst wars, natural disasters and other calamities, focused solely on their next move, whilst their world fell apart around them. Both games demand deep concentration, but grandmasters of both games insist that the best concentrative focus is achieved not through forced anxiety but a deep meditative calm. Chess and *Go* are both known to delay the onset of Alzheimer's disease and generally tone up the functioning of the nerve cells in the brain. Some of the latest neuropsychological research using functional MRI shows that chess activates primarily the left hemisphere of the brain. On the other hand, the MRI studies reveal that *Go* has an effect on both the right as well as the left sides of the brain, but with particular attention to the right side including the right parietal lobe which is the centre of visual perception and the interpretation of shapes and patterns.²

This is important as well as significant. It has been well established that the left hemisphere of the brain controls speech and language functions, logical thinking as also the motor functions on the right side of the body. That is why strokes in this region can affect speech, cause partial paralysis or lead to stuttering. The right hemisphere is the seat of more holistic thinking, recognises and rearranges patterns, and controls the body's left side. Right-sided injuries can lead to spatial disorientation and an inability to interpret images. When we juxtapose these facts with how we understand languages like Sanskrit and Mandarin - the root languages of India and China respectively — the results are both interesting and significant.

India & China: Language, Culture and the Games³

Sanskrit as a language has a script that relies on alphabets that have to be aligned according to strict rules. Sanskrit words follow a logical though difficult grammar. This structure of rules and complex grammar ultimately creates a very sophisticated language capable of expressing complex thoughts and abstract concepts. But these are built through logic and grammar, *processed in the left brain*. No wonder, because the greatest grammarian in history — the Sanskrit scholar Panini - forged the foundations of the language. In direct contrast is Mandarin. This is a language totally visual and ideographic in nature through its character script uniquely capable of expressive calligraphy, and conveying meaning through imagery and analogy. These images are understood and appreciated all at once in a holistic manner *by the right brain*, since that is the seat of pattern recognition. Mandarin — in contrast to Sanskrit - has a very simple grammar. Thus Sanskrit and Mandarin each conform to the specialist features of the two halves of the brain: Sanskrit corresponds to the logical, linguistic left-brain and Mandarin to the visual, holistic right brain. It is well established in neuropsychology that if neural pathways are constantly stimulated by use, they create lasting nerve connections and hence strong responses and memories. *And since these are the very neurological regions, respectively, that chess and Go tackle*, it is reasonable to conclude that each game stimulates and reinforces its corresponding thinking pattern.

There are time-honoured traditions in both India and China that link chess and *Go* to the formal education of princes, scholars and the ruling elite in general. This link is clearer in the case of China, where *weiqi* was considered as one of the 'four cultivated arts' that 'gentlemen' must learn (the others being music, calligraphy and painting). But in India as well as Persia (which took the game from India), chess was part of princely education. In Indian and Chinese classics of that era, there are constant admonitions and warnings to the gurus of princes against the addictive qualities of both games, but yet they were considered essential for inculcating the art and science of strategic thinking. But how much *are* these two games really about strategy, rather than tactics, skill, or even chance?

Chess, Go and Strategy

There is general agreement that chess is easier to learn; it takes a long while even to acquire even a moderate level of skill in *Go*. In part this may be because of the incredible number of moves that are possible in *Go* - 10 raised to the power 761 versus a mere 10 raised to 120 for chess! Also, the very simplicity of the rules of *Go* versus the more complex ones for chess limits the range of moves. But certainly chance plays very little part in both games. Chess is more of a 'winner take all' game since the objective is to checkmate the opponent. In business terms, chess is more like a takeover bid whilst *Go* is more 'live and let live' in spirit — a competition where the aim is not extinction of the rival but greater market share. To that end, *Go* may approximate real-world conditions more closely in natural ecosystems where decisive outcomes usually take the form of dominance over the long term, rather than outright extinction.

There is also something reassuring about the fact that computers have not yet outwitted man entirely in this field. Though IBM's *Deep Blue* chess programme defeated world grandmaster Kasparov in 1997 and the chess computer *Rybka* is unbeaten since 2008, no computer has yet beaten the best *Go* players in the world.

To the horror of many chess enthusiasts, the famous German grandmaster Richard Teichmann (1868-1925) declared "Chess is 99 per cent tactics!" Though this may seem an extreme statement, there may be a germ of truth in it. Certainly, in a chess game even between equals, a momentary positional advantage can often be pushed through to a checkmate. Daring 'deep penetration raids' can create decisive power advantages though at considerable risk. In contrast, *Go* between equals usually produces marginal ranges of 'victory'. Careful ('don't be greedy') execution, sacrificing unnecessary positions and sustained follow through of strategy can achieve board dominance over a long game. This is because the risk perception and risk management matrix for *Go* is quite different from that of chess: it means taking a longer view with a more cautious approach. But caution does not imply incremental movement. A holistic approach to board dominance might mean moves at different places, and also unusual and paradoxical moves, but all in line with an overall pattern.

As a chess enthusiast and an amateur *Go* player (still trying hard!), my own view is that *Go* is more the game of global strategy than chess. *Go* calls for an overall deeper strategic plan. This might involve local engagements but these can be dealt with (and some can even sacrificed) without compromising global strategy. In chess, an unwise local engagement might derail the overall plan - if there is one - for chess is indeed much more tactical. *Go* also involves thinking levels that are more

intuitive and holistic, rather than purely logical as in chess. Paradox and hunch are not taboo in *Go* — indeed, they are far from being shunned as being illogical — rather, they form an integral part of the innovative lateral thinking armoury of humans. Finally, in contradiction to chess, *Go* reveals itself as a long-term play.

Geopolitics, Chess and Go

Finally, how should we look at the chess-*Go* distinction in the light of modern geopolitics, especially in relation to India and China? One can speculate that strategic thinkers - like thinkers of all hues - are influenced by the traditions and learning environment where they are trained and undergo most of their life experiences. Of course, this is not an absolute rule and there are always exceptions. Still, one may postulate that most thinkers in the Indian strategic environment would follow Western Enlightenment-based rational-logical principles of reasoning, since our system of education is moulded along these lines.

Similarly, the Chinese strategic tradition would draw from its own rich heritage of Confucian and Daoist thought, legalist principles and the wealth of anecdote and annals right from the early years of China's Spring and Autumn Period (771-403 B.C.). These traditions involve not only inductive reasoning but also spiral and paradoxical ways of thinking, which are part of an overall emphasis on holistic patterns. I have written elsewhere⁴ about how languages and cultures that differ widely lead to different (but not necessarily conflicting) ways of thinking. Chess and *Go* form a part of these different Indian and Chinese cultural traditions, and so both have influenced their creation and in turn are their products.

We can now look at some specific examples to carry this argument forward. Consider examples of the 'deep penetration raid' — a particular outcome of chess theory. Spectacular instances of success here include the recent Abbotabad expedition by the US Navy Seals; earlier, the Israelis' successful hostage rescue at Entebbe (1976) and the extraction of Nazi war criminal Adolf Eichmann from Argentina (1960). Equally, there have been disasters - the botched US hostage rescue from Teheran (1980) and the infamous Bay of Pigs invasion of Cuba (1960). The final outcomes in Iraq and Afghanistan remain uncertain. On the *Go* theory, the best success example would be that of China's economic growth and its external outreach. Deng Xiao Ping's advice in 1979, at the start of the 'reforms and opening up' period, was for China to keep a low international profile and bide its time, focusing fully on rapid economic growth. Over 30 years, the adherence to this long term goal has meant the elevation of 400 million Chinese from below the poverty line, and the entry of China into the ranks of the global economic powers. Only in the last decade of this period did China begin its outreach to Africa, Latin

America and South Asia in an orchestrated series of moves on the global map that could not be bettered on a *Go* board. An example of problem solving through paradox was the adoption of the *one-country-two-systems* formula to resolve the “Hong Kong question” i.e. how to reconcile Communist state sovereignty with a capitalist free market.

Of course, China has had setbacks, and these too reflect eerily on the tendency in *Go* to develop ‘frozen’ positions in some locations on the board which remain static yet unsatisfactory. In real life, the examples would be North Korea, and within China itself —the non-resolution of the Tibet imbroglio over a long period. Xinjiang is another example. These are reflective of the lack of a suppleness of response symbolised by the immobile nature of *Go* pieces, as opposed to the range of movement options available to chess pieces.

These speculations are intended to provoke. I hope they will lead to a larger debate. If nothing else, perhaps more of us may be persuaded to try our hand at *Go* just to see what all the fuss is about! On my part, there is nothing I would like better than to hear from our own forces on our borders about their views. Perhaps many of them have discussed these or similar issues on both sides of the border, played a game or two of either chess or *Go* or both, and have first-hand experiences that might enlighten us all. We might even learn whether there is similar speculation on the other side of the border about the virtues of chess!



Notes:

- 1 The website of the British Go Association www.britgo.org has proved very useful in providing valuable information about the comparisons between chess and *Go*.
- 2 See “A functional MRI study of high-level cognition” in *Cognitive Brain Research* 16 (2003) pp. 32-37, by the University of Science and Technology of China, Hefei, Anhui, in association with the University of Minnesota, Minneapolis, USA.
- 3 For a fuller development of the connections between language, culture and development, see the author’s paper titled “*Ways of Thinking: Psycholinguistic Reflections on Sino-Indian Relationships and Potentialities*” published by the Observer Research Foundation, New Delhi, in *ORF Discourses*, Volume 5 Issue 2, April 2010.
- 4 Ibid.