

Shaping a Structural and Visual Representation of Strategic Interaction

KLAUS GASTEIER^{a,1}

^a*University of the Arts, Berlin*

Abstract. In the special case of strategic interaction, understood as the relation between concealed and exposed actions, a formalized visual representation of otherwise obscure structures could provide a better understanding of actual conflict situations and their inherent risks and potentials. Based on the concept of the historical Chinese *36 Stratagems* our design-driven approach tries to explore the possibilities of visualization and logographic sign languages in improving the understanding and use of stratagems in a more intuitive way.

Keywords. Strategic Interaction, 36 Stratagems, Visualization, Interaction Design, Information Design, Formalization, Structural Representation, Logographic Language

1. Introduction

To our understanding the general term 'strategy' is a means to plan, prevail and shape *future* according to a strategist's intention. Competing strategies of interacting opponents to achieve conflicting goals always have been the driving forces in economy, society, politics and in war - in everyday social interaction. We define human interaction as strategic when it is characterized by the relation of intentions and actions towards the other side. In many cases concealed intentions and visible actions don't directly match. As another common ground of applying strategies through strategic interaction in human power struggles is their confidentiality and intended invisibility towards the opponent and/or third parties in order to gain advantage. Rarely the visible action directly shows the intention. Revealing, disentangling and conveying opposing strategies often means to take away the other side's advantage and sometimes gain one's own.

In order to get a better grasp of hidden human interaction structures usually made possible through their invisibility, we² combined a design approach with insights of strategic sciences, semiotics and linguistics. Based on the traditional *36 Stratagems*, an ancient Chinese arsenal of modular basic metaphorical instructions for ruses (here interpreted as: indirect interactions), we experimented with design ideas to understand 'stratagemic thinking'³ through narrative, ludic and symbolic means. Leading to a first draft of a possible logographic sign 'language', our goal is to find a visual and structural

¹Institute of Time Based Media, University of the Arts UDK, Grunewaldstr, 2-5, 10283 Berlin, Germany; E-mail: kg@udk-berlin.de.

²Currently: Master students and colleague Prof. Dr. Jürgen Schulz in a transdisciplinary UDK research seminar, 2017

³We further coin the adverb 'stratagemic' for the process of applying these stratagems

representation system to make the “Art of the Advantage”⁴ visible and thereby 'writable' by better de/constructing invisible agendas and intentions previously omitted in common communication layers. And to help us improving our comprehension of human behavior and interaction patterns, from a different perspective.

2. Towards a Visualization of Strategic Interaction

This is a design-driven project experimentally trying to creatively connect different scientific discourses and strategic science. As to our knowledge there is no formalized way to materialize and visualize these structures of hidden strategic intentions so we tried to invent one – resulting in a simple logographic construction system for stratagemata, like a domain specific visual (non-phonetic) ‘language’.

2.1. Stratagemata and the Stratagems

Stratagemata were a historical collection of summarized ancient military strategy knowledge written by Sextus Iulius Frontinus, followed by a similar named collection of the Greek Polyainos, predated by the classic works of Sun Tzu and much later extended by famous publications such as the types of Machiavelli and von Clausewitz⁵. Over the centuries ‘stratagemata’ or ‘stratagemata’ became synonymous to collections of strategic knowledge intended for military and political purposes. Taking it out of military context we use ‘stratagemata’ here as a general term for knowledge collections conveying strategic rules of indirect and hidden social interactions. In the history of known stratagemata usually one author wrote down personal and traditional, collective experience to a continuous text of exemplary instructions and recommendations. But there is one notable exception, where an otherwise loose collection of textual instructions was condensed and transformed into a homogenous system of granular, metaphorical directives: The ancient *36 Stratagems* [1,3,6,8] are a unique means of mastering situational cunning, forming an arsenal of modular and combinable artifices. They are a systemically structured catalog of recommendations for action to indirectly achieve goals in everyday life and conflicts - based on the identified current situation.

They originate in ancient China and became a cultural property by oral tradition. Rooted in at least the fourth century, they have been written down in the 16th century in the form presently known. In our culture we might know a few of these ancient stratagems like ‘*Kill with a borrowed sword*’, ‘*Create something from nothing*’, and ‘*Hide a knife behind a smile*’ or are able to guess from their simple narratives like ‘*Stomp the grass to scare the snake*’ or ‘*Point at the mulberry tree while cursing the locust tree*’, but as a full system basically taught to children they remain largely unknown to European and Western popular culture [1,5,6].

⁴ Also title of the stratagem-based book of Kaihan Krippendorff [3]

⁵ *Stratagemata* - Sextus Julius Frontinus, 85 AD. *Stratagematon* - Polyainos, 109 AD. *The Art of War* - Sun Tzu, around 500 BC, *Il Principe* - Niccolò Machiavelli, 1513. *Vom Kriege* - Carl von Clausewitz, 1832.

2.2. Stratagems and Intuition

There's a structural beauty in the traditional form of these 36 *Stratagems* clustered in six blocks ordered by possible situation types and one's position in it (See Figure 1).

„Six multiplied by six equals thirty-six. Calculations produce tactics which in turn produce calculations. Each side depends upon the other. Based on this correlative relationship, ploys against the enemy are devised. Rigid application of Military theory will only result in defeat on the battlefield.“

Prologue in *36 Business Stratagems*, orig. ref. unknown [9]

Especially the last sentence addresses the growing awareness in Western culture that pre-defined complex plans in theory never transform to reality as intended [2]. Only in 'retrofitting' the conventional approach of linearly constructing and complying to a pre-defined drawing board plan to enforce a desired future works out exactly as planned and therefore clearly has its limitations.

More situationally flexible and scalable strategic approaches could be necessary, so the *Stratagems* offer much more adaptive, subtle, reactive and sometimes serendipitous ways to achieve one's goals. Central to their everyday accessibility is their perceivable memorability. Not only with its 6x6 ordering but also with its consistent reduction to a basic set of four Chinese signs to each stratagem (with the exception of the last six each consisting of three signs) the 36 *Stratagems* in its original form can be seen as a cultural knowledge preservation device characterized by structural aesthetics (Influenced by the *I Ging* and by the *Yin Yang* polarity principle [8,1]).

It represents a framework of simplification, combining metaphors and aesthetics of consistency and symmetry, in order to be easily memorable and intuitively applicable.⁶

Stratagems in Superior Position		Stratagems in Confrontation		Stratagems in Attack	
瞒天过海 01	Cross the sea without the emperor's knowledge (Openly deceive but hide your true intentions)	无中生有 07	Create something from nothing (Fake or exaggerate something)	打草惊蛇 13	Stomp the grass to scare the snake (Stir things up to scare and impress)
围魏救赵 02	Besiege Wèi to rescue Zhao (Attack another to save your target)	暗渡陈仓 08	Openly repair the gallery roads, but sneak through the passage of Chencang (Advance through a secret path)	借尸还魂 14	Borrow a corpse to resurrect the soul (Inject Life into something old)
借刀杀人 03	Kill with a borrowed sword (Attack using the strength of another person)	隔岸观火 09	Watch the fires burning across the river (Let them fight your fight while you rest and observe)	调虎离山 15	Lure the tiger off its mountain lair (Decrease their position of strength)
以逸待劳 04	Wait at leisure while the enemy labors (Wait at ease for the exhausted enemy)	笑里藏刀 10	Hide a knife behind a smile (Betfriend and attack by surprise)	欲擒故纵 16	In order to capture, one must let loose (Let go to recapture later)
趁火打劫 05	Loot a burning house (Hit them when they are down)	李代桃僵 11	Sacrifice the plum tree to preserve the peach tree (Sacrifice small for big gains)	抛砖引玉 17	Tossing out a brick to get a jade gem (Throw out small to attract big)
声东击西 06	Make a sound in the east, then strike in the west (Fake to the right; attack to the left)	顺手牵羊 12	Take the opportunity to pilfer a goat (Alertly exploit small things along the way)	擒贼擒首 18	Defeat the enemy by capturing their chief (Convince the leader and the rest will follow)
Stratagems in Confusing Position		Stratagems in Gaining Ground		Stratagems in Desperate Position	
釜底抽薪 19	Remove the firewood from under the pot (Remove key support)	偷梁换柱 25	Replace the beams with rotten timbers (Replace strong support with weak support)	美人计 31	The beauty trap (Provide alluring distractions with honeypot traps)
混水摸鱼 20	Disturb the water and catch a fish (Surprise and take advantage)	指桑骂槐 26	Point at the mulberry tree while cursing the locust tree (Criticize indirectly from a safe position)	空城计 32	The empty fort strategy (Put on a bold front, fake strength)
金蝉脱壳 21	Slough off the cicada's golden shell (Remove your cover to reveal the inside)	假痴不癫 27	Feign madness but keep your balance (Play dumb and let them underestimate you)	反间计 33	Let the enemy's own spy sow discord in the enemy camp (Double agent play)
关门捉贼 22	Shut the door to catch the thief (Closed door attacks)	上屋抽梯 28	Remove the ladder when the enemy has ascended to the roof (Lead them into a trap, then cut off their escape)	苦肉计 34	Inflict injury on oneself to win the enemy's trust (Feign weakness through self injury while arming yourself)
远交近攻 23	Befriend a distant state and strike a neighboring one (Build strategic alliances with others)	树上开花 29	Tack the tree with false blossoms (Reform/expand deceitfully with objects of little value)	连环计 35	Chain stratagems (Turn the enemy's strengths into weaknesses through a series of connected stratagems)
假道伐虢 24	Obtain safe passage to conquer the State of Guo (Seek Help from Ally and Attack Ally Too)	反客为主 30	Make the host and the guest exchange roles (Turn your defensive into an offensive position)	走为上 36	If all else fails, retreat (Know when to concede or give up)

Figure 1. The 36 *Stratagems* in their original 6x6 structure (own representation)

The unique basic approach of the 36 *Stratagems* - if we try to separate it from the grim military connotation and do not judge it ethically - seems like a blueprint for an

⁶But, especially when coming from another culture, the metaphorical approach does not work well any more in modern times and outside its original cultural context, like basically few Westerners can relate to stratagem titles and narratives like „Besiege Wèi to rescue Zhào“ or „Obtain safe passage to conquer the State of Guo“ and need a cultural translation

intuitive construction kit for systemically identifying and initiating interaction patterns and their cascades in everyday human life.

Those *Stratagems* and what they represent only need to be transformed to be more *accessible* and intuitively applicable in other cultures.

2.3. Understanding Stratagems: Ludic and Narrative Ways

As sinologist and jurist Harro von Senger, who basically brought the knowledge of the 36 *Stratagems* from China to Europe 30 years ago, never stopped pointing out [5,6,7], the Western treatment of *cunning* always was characterized by a strong ethical condemnation, neglecting the political and social significance of at least being aware of the ‚Art of Cunning‘. The German word ‚List‘ (ruse, cunning) is usually negatively connotated in our culture (‘Hinterlist’, ‘Arglist’ - like: deceit, craftiness, malice) and this, according to Senger, led to an occidental ‘ruse blindness’ [5], a lack of maturity in recognizing and applying conscious stratagemic actions. This seems urgently needed when dealing with a stratagemically conscious opponent - especially since the application training helps in particular identifying stratagemic behavior in others - and oneself [7]. To achieve this, one has to internalize this system in ways not rationally taught in academic books and rarely described in experimental contexts [4].

In a series of design and UDK research seminars with interaction designers, communication scientists and strategists, several narratological and ludic approaches for finding better ways teaching stratagemic thinking emerged. In team projects students conceived sets of more accessible, contemporary metaphors⁷, audiovisual representations⁸, narrative devices⁹ or generating whole board games centered around competitive storytelling and debating¹⁰. For brevity's sake, this will not be examined in detail here but it was an important step towards the approach presented in this paper.

2.4. Formalizing and Transforming a Metaphorical Structure to a Logographic Language

In a next phase of stratagem-themed seminars we tried to find haptic, visual and logical ways to represent and construct stratagems in order to to gain a more intuitive understanding. After some research and evaluation of found references, I suggested the idea of combining the insights from previous formalization and categorization attempts (shown in Figure 2) and the underlying impression of the 36 *Stratagems* as a Lego-like-construction kit to a formalized and very simple logographic sign language starting with a basic SPO¹¹-structure (but without phonetic usage). Inspired by an old project of my UDK colleague Timothée Ingen-Housz from 1995 called *Elephant's Memory*, a non-linear “experimental logographic writing system and interactive visual language”¹²

⁷ Like the project ‘strategem.org’ (available on archive.org, Majada Daria Ramadan, UDK 2015)

⁸ Fictional ‘Stratagems for Kids’-video series called ‘Trickids’ (In a design seminar, FH Aachen 2006)

⁹ A ‘Black Stories’ stratagem adaption (Dennis Höfinghoff, Simon Meßmer, Maximilian Schulz, UDK 2017)

¹⁰ ‘Buereau Niveau’, a collaborative storytelling-oriented stratagem-game set in everyday office culture, or ‘Spin Doctor’, a competitive political debating game utilizing an adapted structure of the 36 Stratagems, or ‘Laubenpieper’, a competitive strategy game for climbing up the organisational hierarchy of a typical German allotment garden colony – among many other games, UDK 2010-2013

¹¹Subject, Predicate, Object

¹²<http://www.elephantsmemory.net>

a group of UDK students¹³ tried to create a radically simple visual construction kit of social actors, functions and attributes representing stratagems, shown in Figure 3, that could work as a card game, digital app and even as refrigerator magnets and is intended to be intuitively easy to use. Nonetheless it has the ambition to be capable of visualizing all ways of indirect strategic interactions shown in the *36 Stratagems* on a meta-level, further being usable as analytical tool to write down identified or speculated, probable and possible stratagemic pattern in a formalized language-like way and therefore influencing our behavior in the long term.

Its not intended to be a full 'spoken' language for bidirectional communication usage but to be applied on a translating, analytical meta-level only.

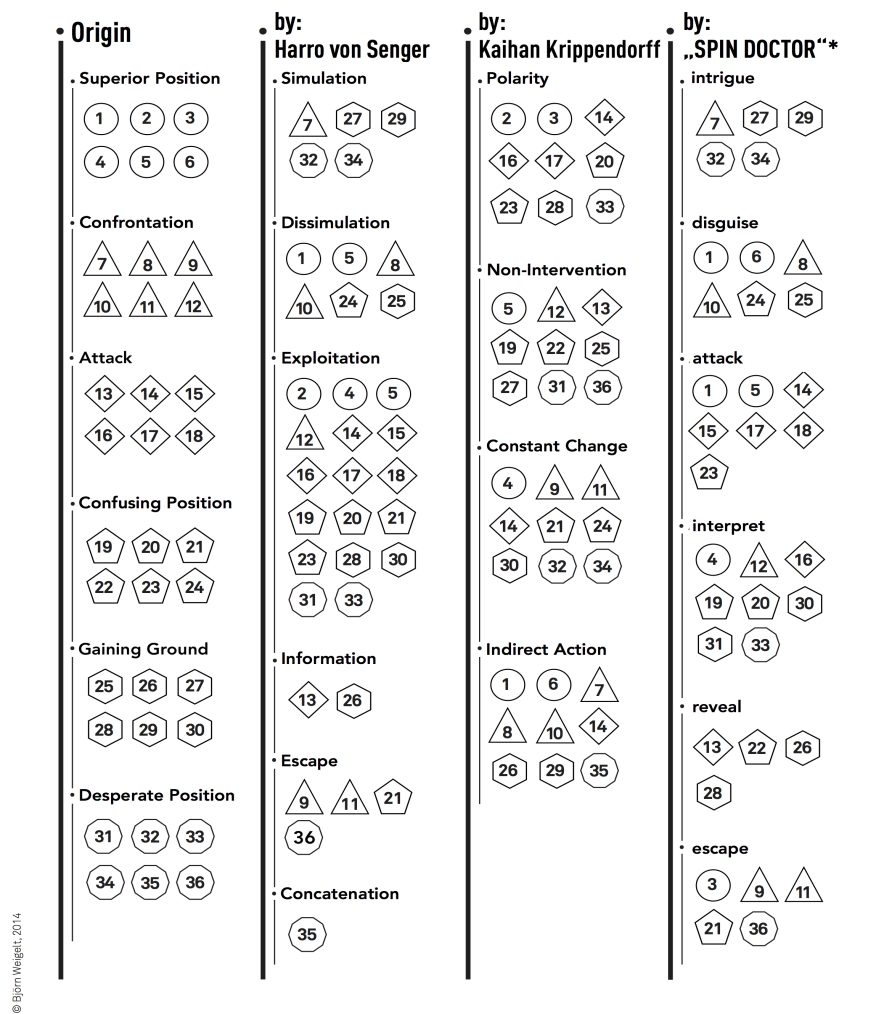
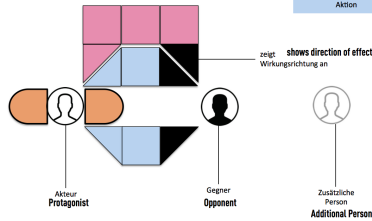


Figure 2. Different categorizations of the *36 Stratagems* (Collected by Björn Weigelt)

¹³ Charlotte Zehentmair and Taina Sondermann in the seminar "Stratagem-ification", UDK 2017

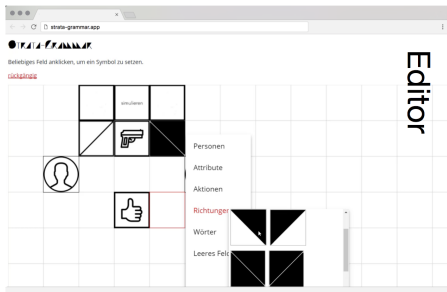
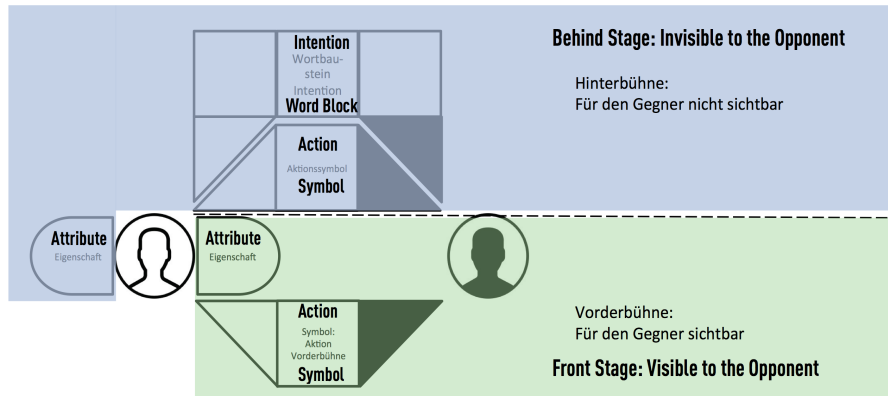
Aufbau eines Strategems Visual Stratagem Structure
 Bedeutungen der einzelnen Bausteine Building Block Meanings



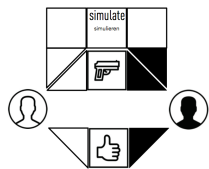
Notwendigkeiten und Möglichkeiten Necessities, Possibilities, Options

Intensions / Word Block	Actions / Symbols	Attributes & Indicators
Intention/ Wortbaustein <ul style="list-style-type: none"> • Notwendiger Baustein • Steht immer an oberster Stelle auf der Hinterbühne, da er sinnstiftend für die Handlung ist • Absicht der Handlung 	Aktionen/ Symbole <ul style="list-style-type: none"> • Notwendiger Baustein • Aktionsymbole können auf der Vorderbühne oder auf der Hinterbühne platziert werden • Handlungsstränge der List 	Eigenschaft/ Attribut <ul style="list-style-type: none"> • Optionaler Baustein • Eigenschaften sind nur bei bestimmten Strategemen notwendig, immer dann maßgeblich für das Gelingen der List
#6	#18	#27

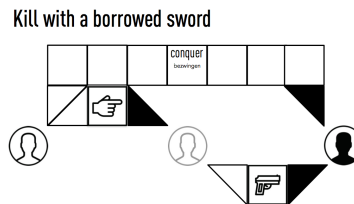
Stratagems are composed of two levels. In order for the ruse to succeed, one level has to remain invisible



10
 Hinter dem Lächeln den Dolch verbergen
 Bedeutung: Strategem der Doppelzüngigkeit, Januskopf-Strategem, Judaskuss-Strategem, Einullungs-Strategem



3
 Mit dem Messer eines anderen töten
 Bedeutung: Strohmann-Strategem, Stellvertreter-Strategem, Indirekte Schädigung, Alibi-Strategem



23
 Sich mit einem fernen Feind verbünden, um einen nahen Feind anzugreifen
 Bedeutung: Strategem der einstweiligen Fernfreundschaft, Strategem des Vernichtungsbündnisses, Hegemonie-Strategem

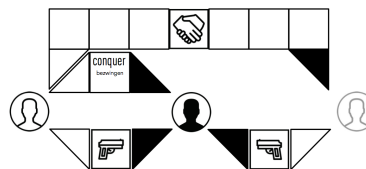


Figure 3. First impressions of *Strata-Grammar*, an editor-based logographic sign language for stratagems. Project and version by Charlotte Zehentmair and Taina Sondermann, based on the master research seminar “Stratagem-ification” by Klaus Gasteier and Dr. Jürgen Schulz, UDK 2017, app prototype by Martin Stelter

2.5. Next Steps: Writing and Thinking Stratagemic?

This is a design project experimenting with assumptions inspired by the scientific context. A first conceptual prototype was built from ideas derived from creatively connecting several scientific discourses we are not all experts in. This result needs to be tested further; structurally, visually and functionally improved and a proper formalizing and ontologizing process with expert help is needed to make the functional logic more commonly applicable and the system scalable in further iterations of this approach.

First feedback discussions and reactions to the result point to an interesting potential: Training to construct stratagems as a speculative interpretation in a purely visual diagrammatical way shows us learning to think in and identify stratagemic structures without knowing verbally the traditional (and culturally/metaphorically clouded and imprecise) stratagems. Just by memorizing and differentiating the logic and visual pattern and their 'vectors' emerging from a modular logographic construction kit this approach can help transforming the previously hardly verbally describable to the intuitively thinkable, like an antithesis to Orwell's fictional 'Newspeak'. We might get a better grasp of what people think, but not tell - or if and why they show misleading actions contrasting their real intentions. Because it's a central part of human interaction patterns, if we like it or not. *Internalizing stratagemic thinking* - presented here in one possible way - might be a critical sensitization process for increasing fairness and equality in complex social strategic interaction.

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