



# The Explanation of Force Dynamics Model for Patient Subject Construction in Contemporary Chinese

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## Abstract

The contemporary Chinese Patient Subject Construction (PSC) focuses on the patients, of which it notes changes, status or the speaker's subjective evaluation. This paper intends to present a unified definition of application conditions for contemporary Chinese PSC by employing the force dynamics model in cognitive semantics. The force dynamics of PSC are summarized as that the agonist has motion tendency and inclination of absorbing force application, or a case that the force is broken by those against the agonist. The results tend to be static, while the agonist degrades and the anti agonist focuses and move to the foreground.

**Key words:** Force Dynamics; Patient Subject Construction in Contemporary Chinese; Agonist Degradation; Antagonist Foreground

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## INTRODUCTION

The patient subject construction in contemporary Chinese is defined in both broad and narrow sense. All the cases that the patient acts as subject in a sentence are regarded in PSC broad definition, it includes the sentences with

passive verbs -‘be subject to’, as referred by Gong Qianyan (1980). In term of narrow sense PSC definition, it does not cover the sentences of “be taken” and those with ellipsis of agentive subjects O(S)V or (S)OV. This paper focuses on the narrow sense of PSC in contemporary Chinese. That is, it notes the sentences that the patient acts as subject and implies the agent without passive label. The PSC has always been the concerns in grammar studies. The nature and semantic features of these sentences have been in consensus: PSC is the sentence for declaration or statement (Gong, 1980; Lü, 1982). Some scientists (Fan, 1994; Qiu, Liu, 2009) further pointed out that the PSC semantics can be summarized as meaning description and subjective evaluation. Regarding the application of PSC, namely the syntactic and semantic conditions have been much discussed in the academic field. I.e. the patient ineffectiveness, fixity and formation of complex predicate etc. Through the force dynamic model of Talmy (1988, 2000), this paper analyzes the semantic type of PSC, and thus better understands the essential characteristics of PSC. This offers better unified interpretation for PSC use.

## 1. THE COGNITIVE LINGUISTICS MEANINGS OF FORCE DYNAMICS MODEL

The force dynamics model is a schema of language structure analysis released by the American cognitive linguist Talmy (1988) according to the principle of mechanics. The key factor of the model is “force” . The definition of force in physics refers to the interaction between objects. All the acts that change the objects shape or motion status are named force. There exists interaction between human and the environment, these interactions depend on force. The force is a section of pre-conceptual gestalt. (Johnson, 1987) the analysis of force becomes a feature of cognitive semantics (Shu, 2008).

The basic semantics of concept occurs in the process of interaction between people and the external material world. The interaction between people and the outside world are based on perception, behavior, expression and reflection (Sweetser, 1990). Conceptualization is the research object of cognitive linguistics. The basic hypothesis of cognitive linguistics is based on sequences of human experience-> conceptualization->schematization->language types. The cognitive linguistics notes that the force dynamics is a concept model expressed via its concept basis (Xiong, Wang, 2002). The so-called force dynamics is the relationship between entity and the forces. It includes force exertion, force resistance, overcoming and blockages as well as their removal. The Force Dynamics system of Talmy is based on the mutual confrontation of two individuals that show internal force. One individual is named agonist that stays in foreground and becomes the center of schema, and the other one is antagonist, it stays in the background status. The core question of a force exertion scene is that whether the agonist has inclination of absorbing the force or that the force is overcome by the antagonist. They correspond to action and rest respectively. Talmy (2000, p.413-417) categorized the fundamental force dynamics model in steady-state into 4 types. The following sentences exemplify these 4 different schemas.

- (1) a. The ball kept rolling because of the wind blowing on it.  
b. The log kept lying on the incline because of the ridge there.
- (2) a. The shed kept standing despite the gale wind blowing against it.  
b. The ball kept rolling despite the stiff grass.

The agonist trend is either in rest or action. The power of agonist is lighter than the one of antagonist, i.e. (1) or the one with bigger power than the antagonist, such as (2). The agonist trend is either rest (1a, 2a) or action (1b, 2b), the resultant of agonist is either rest (1b, 2a) or action (1a, 2b).

Talmy mixed the notional words and closing terms into a unified theoretical framework of explanation. The notional words provide content of conceptual structure, while the structural principles of concepts are referred by the closing terms, grammar or structure. Sweetser (1990) analyzed semantic variation, modal verbs, conjunctions and multiple meanings of conditional sentences in English through force schema. In the force dynamic model, the force not only represents the physical meaning, but also has the inherent force, as well as social and psychological aspects of force through metaphorical extension (Talmy 2000, p.409).

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## 2. THE FORCE DYNAMIC SCHEMA OF PSC

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The PSC focuses on patient description that indicates the changes of status and experiences due to certain actions. Concerns on the outcome of events is one of the

key and fundamental principles of Chinese word order and semantic. (Dai, 1994, p.203) That the consequences come after the reasons is event's natural order and basic principles of human perception. (3) A is the case. That the reasons lie behind the results focuses the speaker's emphasis. That is if focuses on the outcome of events, such as (3) b.

- (3) a. I was sick; I did not go to the meeting.  
b. I didn't go to the meeting, because I was sick.

PSC focuses event results section highlighting the patient; meanwhile, it can also be seen as the prototypical meaning of PSC, and the meaning of evaluation is the extended meaning through metaphorical extension. For example,

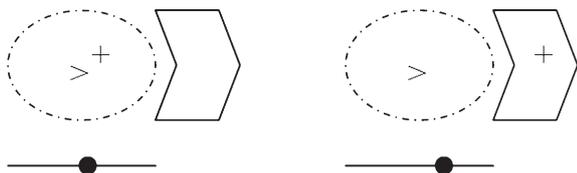
- (4) a. The house has been completely constructed.  
b. The glass is broken.  
c. The fire has been finally crushed out.  
d. The task cannot be finished.  
e. The dry buns and spicy pancakes cannot be swallowed.

The above examples highlight the patients "glass, fire, house, task, dry buns and spicy pancake". "The glass is broken" describes that glass is subjected to certain influence, it has the status of completely shifting from integrity into fragments. Without external force, the glass will not change its status. Similarly, the house cannot be constructed by itself. The patient is an objective entity that has no spontaneous force or influence, that is there must be some kind of power driving the predicate verb to affect the patient. The PSC without agent composition still implies the existence of the agonist. The interaction of this force and the antagonist power has the patients presented the above results. Therefore the above cases can be expressed as followed:

- (5) a. The house has been completely constructed. (The nice people assistance matters)  
b. The glass is broken. (Because it has a hammer)  
c. The fire has been finally crushed out. (Due to a big rainstorm)  
d. The task cannot be finished. (Although we've paid great efforts)  
e. The dry buns and spicy pancakes cannot be swallowed. (Although we've tried much)

The agonist is a sentimental agent, or autonomous entity. The agonist prefers motion. The forces from agonist and antagonist are imbalanced. In their campaign, (5) a, (5) b and (5) c indicate a case that the agonist force is stronger than the antagonist's, and agonist overcomes the force of antagonist. On the other hand, (5) d and (5) e denote the case that the agonist force is weaker than the antagonist's, that is the resistance force overcomes the acceptance force. The author notes that the force dynamics of PSC contains four dimensions: The agonist has motion tendency; the agonist absorb the force inclination or be overcome by the antagonist; the agonist is able to possibly prevent certain tendency happening.

The antagonist or patients have tendencies of generating results. The force includes both physical external power and internal psychokinesis. The PSC force dynamic mode is illustrated as:



**Figure 1**  
**The Schema of Motion of Agonist**

All the agonist (ellipse) tend to motion (>), the agonist force is stronger (+) than the force of antagonist (concave figure). The result of force interaction is rest (dot below). The agonist also tends to motion, the force of agonist is weaker (-) than the antagonist ones, then the result of antagonist is rest. The dotted line in the diagram shows that the agonist is implied and in background, which focuses on the antagonist and lies on the foreground position. The antagonist is affected while its influenced results status is highlighted.

### 3. THE FORCE DYNAMICS INTERPRETATION OF PSC COMPOSITION

PSC is related to predicate and the patient subject, the predicate verb and modal verbs tend to contain “force” or inclination of “force”. The patient subject effectiveness reflects the neutralization of force dynamics.

#### 3.1 Force Tendency of Predicate Verbs

On the level of sentence, PSC is a subject-predicate structure. On the semantic level, it exhibits a relationship of patient-exertion. The accusative subject represents the obligatory semantic element related to the predicate verb. It is coincidentally also the logical object of predicate verb. The predicate verb normally is transitive verb of action. The action verbs are accounted for 90.6% in PV type, among which the touchable and untouchable verbs are accounted for 87.6% and 3% respectively. The others are psychological verbs and relational verbs of property and status. (Peng, 2005) The touchable verbs refer that the action can directly act on the patient and generate influence, such as “kick, position, do, eat, drink and play”. The untouchable verbs refer that the action cannot be directly applied to the patient, such as “look, hear, smell, read and see” etc. These two types of verbs all contain verbs of force, namely they bear the agonist’s physical force or psychokinesis. Therefore they are all force verbs.

PSC describes the existence status or influence of the subject. It becomes a status when the action finishes. (Lü, 1982, p.57) So, the predicate verb must have telic semantics, at the same time, due to that PSC is free of semantic tendency, it contains both the positive and

negative meaning. Therefore, the consumption verbs (such as “detach, eat, burn,”) and creativity verbs (such as “make, do, cover”) are regarded as PSC. That contains achievement verbs and consumption accomplishment verbs directly indicate the results or strongly oriented to the results, which meets the requirement of termination. Therefore, these two types of verbs plus the label of completion style “liao (already)” can apply PSC. The importance of grammatical function of “Liao” is to link the event that the sentence title describes to certain referred time point (normally the speaking time). That is to express the situation of reality changes or emergence of new situations, namely expression realistic correlation. (Li & Thompson, 1982) such as:

(6) The rotten tomatoes have been discarded.

(7) The house has been demolished.

The achievement of result for the creativity accomplishment verbs depends on the completion of creation process. So, the creativity verbs work not only need the label of completion “liao” but also the complement that implies its completion (such as “OK, finished” etc), such as:

(8) a. The house has been constructed.

b. The article has been finished.

In the above cases, the agonist tends to motion; it is a sentient agent or autonomous agent. The agonist absorbs the exertion tendencies, such as (8). In another case, the agonist is overcome by the antagonist, for instance (7). Obviously, the force dynamics of consumption semantic represents the former case, while force dynamics of creativity semantic notes the latter case. The result statuses of two force competition are the same, which is namely the antagonist’s continuous status of rest.

Some psychological verbs, such as “love, hate, like, think, miss” etc, are also applicable to be PSC’s predicate verbs. Such as:

(9) a. That question is noted very clearly.

b. This thing is forgotten.

The psychological verbs refer to the psychological feelings or a kind of invisible force caused by emotion, or built in psychokinesis. The agonist consciously memorizes something, the balance changes due to the mutual forces’ strengthening and weakening, and antagonist’s force of forgetting maintains mutual impact force. The agonist’s force is stronger than the antagonist and overcomes the resistance of antagonist. The antagonist result exhibits status of rest, for instance (9) a. While the agonist’s force is weaker than the antagonist’s forgetting force, the antagonist’s result exhibits status of rest, i.e. (9) b. The above examples express the critical force conflicts within the agents.

The negative expression is essentially a default expression. The negative format of PSC has propositional and modal negation. Peng Jinwei (2005) notes that in PV format the negative adverb “bie(never, do not)” has low possibility of reference according to statistics. “bu (no)”

and “mei(none)” have average reference frequencies, “mei (none)” has slightly higher reference frequencies. Such as:

(10) a. The guests cannot be seen.

b. The guy (Mr. Zhao Benshan acts) heard that Suozhuzi(another guy’s name)’s leg was injured when he drives a 4 wheels motorcycle, then he made a set of crutches in day and night. However suozhuzi injury was worse than what they thought, he used wheel chair other than crutches after leaving hospital. Therefore, suozhuzi did not buy that guy’s crutches. lol..... (Referred as Zhao Benshan’s short comedy-*Crutches Sell*)

The negative force dynamics can be regarded as that the agonist tends to motion, however its force is weaker than the antagonist. Namely in the competition of two forces, the resistance force of negative format overcomes the “rang (let)” (Qiu, Liu, 2009)

The subjects of the above cases actually are not agonist of the scenes described, the real agonist is sentient subject or autonomous entity, all of which are not expressed in the sentences, that is called agonist degradation.

### 3.2 The Force Tendency of Modal

Chinese is a type of satellite-oriented language. Its modality is expressed by means of additional components ahead and after the verbs. In contemporary Chinese, the label of time co-occurs with the modality. The PSC has strong subjectivity and clear meaning of evaluation when the VP with modal words expresses whether it can exert certain action to patient or whether the patient is able to afford the actions. (Qiu, Liu, 2009) It says the framework of force dynamics not only obtains the concept that causes the results, but also has concept that resists certain tendencies occurring. (Talmy, 2000, p.429) The latter is the concept of force dynamics for modal.

The key application of modal force dynamics is deontic use, namely the use of modal non-speculation. It notes the social-physics force, that is the force or restrictions constructed with social responsibility and obligation. For example:

(11) a. We can buy more houses for rent, and more acres of land in thin sand. (A Dream of Red Mansions, chapter 56)

b. This task must be completed on time.

c. Wang cannot be criticized.

d. This kind of houses must not be bought, absolutely not.

One of the important semantic features of modal fundamental application is that in most of the cases it represents a sentient agonist and an interactive relationship of psychology and society. (Talmy, 2000) The power refers to the actor’s ability including the inherent meaning of forces, namely the potential of making an action or doing something. “keyi (can, OK)” refers to the lack of external or internal constraints, i.e. no obstacles can resist a behavior occurrence. The agent has sufficient assets, finance ability and desire to purchase houses;

there is no external forces that resists the tendency of action occurrence. “de(can, need)” refers to an external force or social sanction, namely it pushes somebody onto a behavior, namely “to complete the task on time”. “buneng (cannot)” and “bude (not allowed)” refer to external or internal constraints. It resists the occurrence of criticizing Xiaowang by considering that Wang is not fault, or Wang has weak psychological endurance, so that she or he cannot bear the pressure of criticism. Similarly, the house purchasing behavior is resisted because of high prices or insufficient money reservation. The modal force dynamics refers to interaction of sentient agent internal and external force. The agonist may resist occurrence of certain tendency, such as (11) C, (11) d, it can also permit that action occur, such as (11) a, (11) b.

The epistemic use of modal is speculative usage. This usage is not related to sentient agonist in social interactions, namely the agonist degrades. For example:

(12) a. The child is certainly lost.

b. Rome could not be built in one day.

The speculative usage of modal involves certain beliefs about reasoning relationship. It notes a proposition or fact causes (12a) or resists (12b) the speaker to make inferences. The child has been sought for ten years, however has not been found. This reality has the speaker concluded: the child is certainly lost. The common sense tells us that the completion of Rome needs to spend certain time. This proposition resists the speaker making inferences such that “Rome is built in one day. The modal’s speculative and non-speculative meanings are highly related. People construct psychological, cognitive and thinking spaces by understanding the social physical spaces. (Johnson, 1987; Sweetser, 1990) The cognitive mood is a metaphor of real world, the two force dynamics structure are similar. (Sweetser1990, p.59)

### 3.3 The Neutralization of Effective Subject and Force Dynamics

The patients’ prototype feature is defined as a semantic role that its status changes due to external force. “They are generated upon the experiences of out interaction with the world. (Ungerer & Schmid, 1996, p.173). Regarding Chinese, the bare noun ahead of predicate is automatically given a semantic feature. (Shi Yuzhi, 2002) According to the prototype theory of Dowty (1991), a typical predicate semantic is able to give some implication to its argument. For instance, “writing” semantic implication is that an argument must be perceptive, while another argument has no such implication. So the PSC patient tends to ineffective. The effective subject has characteristics of prototype agent. The psychokinesis of effective entity is in background conceptually through physicalizing the mind. (Talmy, 2000; Qiu, Liu, 2009) such as:

(13) a. Erhei and Xiaoqin got relaxed as long as has they arrived the town. (Zhao Shuli, Marriage of Junior Erhei)

b. The kid is timid. It will waste your time if he is sick and not able to study if he suffers significant stress. (A Dream of Red Mansions, chapter 88)

The effective words “Erhei and Xiaoqin”, “kid” originally has the agent characteristics of prototype such as inclination, perception and autonomy. Due to physicalizing the mind, these sentient entities are regarded as a weak agonist or force-dynamically neutralization. It weakens the agent psychokinesis and highlights the characteristics of prototype agents, for instance its endurance, gradual changes and passivity. That implies the subjectivity and focusing flexibility of cognitive subject.

## CONCLUSION

This paper mainly explores the PSC force dynamics model and tendencies of predicate and modal. The statement meaning is the prototype of PSC. The meaning of evaluation is extended through the metaphorical extension. The PSC force dynamics can be summarized as: The agonist degrades and get in background. The antagonist focuses and stays the position of foreground. In the competition of two forces, it exhibits two status that the strength and weakness shifted mutually. The result of two forces interactions shows characteristics of rest. The agonist reserves the possibility of resisting certain tendencies occurring. The predicate (force verb) mainly reflects the external physical force and internal psychokinesis. The force of modal or force tendency is mainly a kind of force or restrictions contain social responsibility and obligation. Briefly, the force dynamic model has certain interpretation on PSC, it provides a good perspective to explain the Chinese language structure.

## NOTES

① This paper uses Qiu Xian, Liu Zhengguang (2009) translation, agonist and the antagonist can also be translated as “hero” “contra” (Shu dingfang, 2008). The acting force and counter force (Xiong Liyou 2008), agonist and antagonist. (Liang Xiaobo, Sun Asia 2002)

② Xiong Xueliang, Wang Zhijun (2002) concluded that “[impersonal patient subject +V] and [personal patient subject + be +V] are the prototype of Chinese passive sentence. The difference between PSC and passive sentence is: PSC is a statement, the agent is implied, that is the agent is not able to be supplemented. While the passive sentences are declarative sentence, the passive sentence agent is omitted. The author thinks that both sentences contain “force” on behind from the force dynamic perspective. The PSC statement function can be regarded as a result status caused by certain physical force or internal psychokinesis, which is the prototype of PSC. The meaning of evaluation reflects the social physical and psychological force, which is an extension of metaphor.

③ The propositional negation is a kind of objective

negation, such as “no rain in the sky.” is the negative of an affirmative proposition “rain”. The negation of modality is a kind of subjective negation, is attitude to the judgment of speech subject on the proposition and the transmission of the information, such as “it’s not going to rain.” “going to” reflects the subjective judgment of language subject, while it is a modality negation.

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