Iraqi Journal of Humanitarian, Social and Scientific Research المجلة العراقية للبحوث الإنسانية والإجتماعية والعلمية
العدد (16S1) الخاص بوقائع المؤتمر العلمي الدولي الثامن الذي نظمته مؤسسة منارة للتنمية والتعليم بالتعاون مع Knowledge University Erbil-Iraq و جامعة العقبة للتكنولوجيا – الأردن تحت شعار (البحث العلمي وتطبيقاته في خدمة المجتمع .. رؤى جديدة لعالم متغير) في إقليم كوردستان العراق – أربيل
في 12 - 13 / 2 / 2025 م

Containment and Force Image Schema in Twain's The Celebrated Jumping Frog of Calaveras County

Zainab Saad Mohammed
University of Diyala/ College of Education for Humanities/ Department of English
Zainab.en.hum@uodiyala.edu.iq

Abstract

In cognitive semantics, knowledge of the world around us is interpreted in terms of conceptualization, and the basic segment of this conceptualization is that of 'image schemas'. Image schema is basic because it helps in understanding the linguistic meaning. It is how we map perceptual categories onto higher conceptual categories. Therefore, there exists different kinds of image schemas listed by Lakoff and Johnson, but this paper is intended to scrutinize containment and force image schemas in Twain's "***The Celebrated Jumping Frog of Calaveras County".*** It aims to investigate how these schemas are depicted in this specific short story which is directed to kids and how they are formed in the mind of the reader. The main difficulty in examining Containment and Force image schemas in a short story is precisely recognizing and evaluating abstract schemas within the text's intricate, overlapping, and frequently subjective narrative and metaphorical structures, which can make it difficult to see the obvious relationships between the schemas and the embodied experiences they represent.

Keywords: Schemes, Image of Containment, Power, Novel, The Celebrated Jumping Frog, Calaveras, Twain.

مخططات صورة الاحتواء والقوة في رواية الضفدع القافز الشهير لمقاطعة كالافيراس لتوين

م.د. زينب سعد محمد
جامعة ديالى – كلية التربية للعلوم الانسانية – قسم اللغة الانكليزية

الخلاصة

في الدلالات المعرفية، يتم تفسير معرفة العالم من حولنا من حيث التصور، والجزء الأساسي من هذا التصور هو "مخططات الصور". مخطط الصورة أساسي لأنه يساعد في فهم المعنى اللغوي. إنه الطريقة التي نربط بها الفئات الإدراكية بالفئات المفاهيمية الأعلى. لذلك، توجد أنواع مختلفة من مخططات الصور التي ذكرها لاكوف وجونسون، لكن هذه الورقة تهدف إلى التدقيق في مخططات صور الاحتواء والقوة في قصة توين "الضفدع القافز الشهير في مقاطعة كالافيراس". ويهدف إلى التحقيق في كيفية تصوير هذه المخططات في هذه القصة القصيرة المحددة الموجهة للأطفال وكيف تتشكل في ذهن القارئ. تكمن الصعوبة الرئيسية في فحص مخططات صور الاحتواء والقوة في قصة قصيرة في التعرف بدقة على المخططات المجردة وتقييمها

داخل الهياكل السردية والاستعارية المعقدة والمتداخلة والذاتية في النص، مما قد يجعل من الصعب رؤية العلاقات الواضحة بين المخططات والتجارب المجسدة التي تمثلها.

الكلمات المفتاحية : مخططات، صورة الاحتواء، القوة، رواية، الضفدع القافز، كالافيراس، توين.

1. On Defining Image Schema

Like other concepts, image schema has been defined differently by different scholars. For Johnson (1987, p. 29) image schemas are "structures of an activity by which we organize our experience in ways that we can comprehend". He, further, adds that it is "a recurrent pattern, shape, and regularity in [conceptual activities]. I conceive schemas as structures for organizing our experience and comprehension". On the other hand, Oakley (2010, p. 215) defines image schema as "a condensed re-description of perceptual experience for the purpose of mapping spatial structure onto conceptual structure". Hampe (2006, p. 1) elaborates the definition of image schema to be "highly schematic gestalts which capture the structural contours of sensory-motor experience, integrating information from multiple modalities" [which] "exist as continuous and analogue patterns beneath conscious awareness, prior to and independently of other concepts".

2. The Features of Image Schema

According to the above definitions image schemas are structures that are formed as natural consequences of involving our body in experiencing the world around us. These structures are characterized by a number of features which are summarized by Hampe as:

i) embodied/experiential;

ii) pre-conceptual;

iii) highly schematic gestalts;

iv) internally structured;

v) highly flexible;

vi) patterns acquired independently of other concepts. (Hampe, 2005, p. 1-2).

Image schemas are embodied as we directly and repeatedly experience them (Lakoff 1987, p. 267). The meaning things are structured in terms of image schemas through the involvement of the body in life experiences. Johnson (1987, p. 29) assures this idea admitting that image schemas "emerge as meaningful

structures for us chiefly at the level of our bodily movements through space, our manipulations of objects, and our perceptual interactions".

As for the second characteristic, namely 'pre- conceptual', researchers believe that our bodily experiences begin with birth. The child, they claim, experiences the sense of touching during the seventh week of pregnancy and the image schemas constructed are called "shortened form of preconceptual preaxiological schema." (Krzeszowski 2017, p.198).

Image schemas are said to be highly schematic gestalts in that they capture the structural contours of sensory- motor experiences. In this respect Johnson (1987, p. 28) proposes that image schema "serve repeatedly as identifying patterns in an indefinitely large number of experiences, perceptions, and image formations for objects or events".

Furthermore, image schemas are said to be internally structured. This is explained by Johnson (Ibid, p. XXIX) as he proposes that these structures consist "of parts standing in relations and organized into unified wholes".

The flexibility of image schemas is manifested in the variant transformations they sustain in various experiential contexts which are closely related to perceptual principles. Johnson (Ibid, p. 30) states that they are "flexible in that they can take on any number of specific instantiations in varying contexts".

And finally, image schemas are said to be 'patterns acquired independently of other concepts'. This specific feature is disputed because knowledge is tightly knitted and complex network of concepts that reflects our mind's organization of the complex world (Szwedek, 2017, p.3).

3. Containment Image Schema

Johnson (1987) explains containment image schema by referring to our body as being contained within boundaries like room, halls, houses, etc. and to our bodily experiences that is conducted to put objects into containers. These experiences resulted in what is called containment image schema which is an abstract structure of physical containment.

Saeed (2009, p. 367) suggests that containment image schemas have experientially-based characteristics, which are:

a. Containers are a kind of disjunction: elements are either inside or outside the container. This part is elaborated by Lakoff (1987, p. 271) who proposes that containers have boundaries and therefore he distinguishes between interior and exterior elements.

b. Containment is typically transitive: This means that if the container is placed within another container the entity is then within both. Johnson (1987, p.22) postulates that there is a common structure that involves spatial boundedness and he presents an example in which he says "If I am in bed, and my bed is in my room, then I am in my room".

There are some entailments that are associated with containment image schema suggested by Johnson (Ibid):

i. Experience of containment typically involves protection from outside forces.
ii. Containment limits forces, such as movement, within the container.
iii. The contained entity experiences relative fixity of location.
iv. The containment affects an observer's view of the contained entity, either improving such a view or blocking it (containers may hide or display).

In addition to the meaning of containment explained above, containment image schema can be extended by process of metaphorical extension into abstract domains. Lakoff and Johnson (1980, pp. 30- 32) consider containment image schema as one of the ontological metaphors. Therefore, activities, states and visual fields can be viewed as metaphor where our experience of these non- physical phenomena are described in terms of physical objects, as in,

(1) I put a lot of energy into washing the windows. (activity)
(2) He is in love. (state)
(3) The ship is coming into view. (visual field)

To sum up, containment image schema involves physical and metaphorical boundaries, enclosed area or volume and excluded area or volume. Besides, there are different types of containment image schemas which are: container, in-out, content, full-empty, surface representations.

4. Force Image Schema

Basically, force is an abstract concept which is difficult to be understood unless being involved within metaphorical representations. Thus, our understanding of the physical force dynamic events is cognitively represented by force image schemas. Johnson (1987: 43) emphasizes that image-schematic structures can be formed to concretely represent forceful bodily experiences and these schemas will then extend and elaborated into other domains of meanings that are not associated with bodily experiences such as social interactions, rational argument, and moral deliberation. Force image schema is defined as "Force, in mechanics, [is] any action that tends to maintain or alter the motion of a body or to distort it. The

concept of force is commonly explained in terms of Newton's three laws of motion set forth in his Principia Mathematica. […] Because force has both magnitude and direction, it is a vector quantity. The representation of forces by vectors implies that they are concentrated either at a single point or along a single line" (Encyclopedia Britannica). Johnson (Ibid, pp. 42-44) elaborates his explanation of force image schema and claims the following to be the characteristics of force image schema:

i. force is always experienced through interaction,
ii. force has a vector quality, a directionality,
iii. there is typically a single path of motion,
iv. there is a source and a target of force,
v. forces have degrees of power or intensity, and,
vi. there is always a structure or sequence of causality involved.

The first feature is true in all types of image schemas. The focal assumption of image schema structure is that it is structured out of human's bodily experiences. The second criterion, on the other hand, is a natural feature since force requires some vector that is intentionally or naturally applied. Nature constitutes a special kind of vector like gravity and wind. Similarly, the third feature is a natural consequence of the second feature. To say it differently, object will be set in motion as natural sequence of applying some force on it. Johnson (Ibid) talks of gestalts of force which represents a moving object, motion, velocity and trajectory.

Talmy (2000) explains the dynamicity of force image schema by proposing the existence of 'Agonist' and its counterpart 'Antagonist'. Agonists is said to be of an intrinsic tendency to either rest or to set in motion as a result of its interaction with a strong or weak force. The following diagram exhibits the way force image schema is depicted by Talmy:

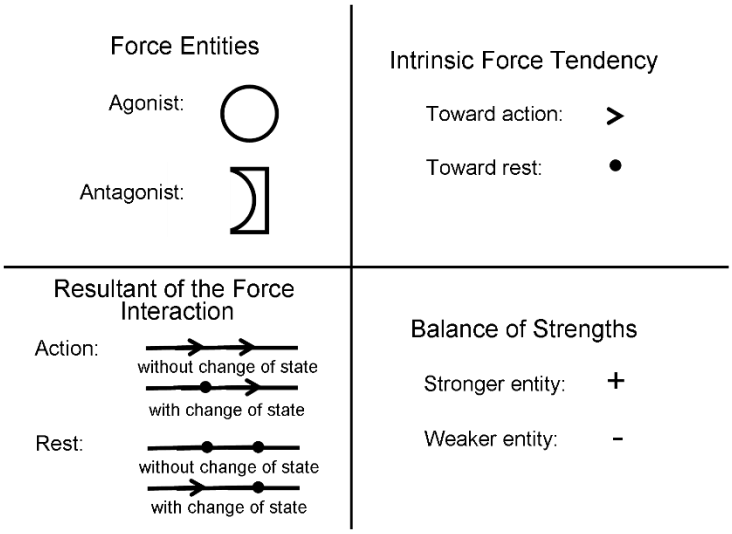

Figure (1) Talmy's configuration of force image schema

Like containment image schema, this schema involves physical or metaphorical causal interaction. In metaphor 'change' is motion that is achieved by 'causes' which are forces and hence achieving goals and making objects necessarily involve change from one state to another.

Force image schemas are of different types: attraction, balance, blockage, compulsion, counterforce, diversion, enablement, momentum, resistance, restraint removal. These types are explained by Hurtienne (2011, pp. 231- 32) in the following way:

Attraction is a force in which a passive object exerts a physical or metaphorical force on another object, to withdraw it toward itself. Balance schema, on the other hand, is a way of depicting how physical or metaphorical counteracting forces or weights counteract or balance off one another. Forces in Balance schema are in equilibrium state.

Blockage schema is represented when there is a physical or metaphorical obstacle that causes to stop or redirected the path of an object. Whereas compulsion schema is formed when a physical or metaphorical force forces a passive entity to move. As for counterforce schema, it is a result of an active meeting of physically or metaphorically opposing forces that are equally strong. The collision of these forces stops the movement of the entity.

When a certain force changes the direction or the vector of an entity, a diversion schema will be resulted. While enablement requires having a physical or metaphorical power to perform some act. And, when the entity has a tendency to keep its state whether a state of motion or rest, the result is a momentum schema. In

addition, a resistance schema is performed if a force opposes the motion of another entity. And the last type of force image schema is that which involves removing barriers. It is called restraint removal.

5. Data Collection, Analysis and Discussion

The data are derived from Mark Twain's "***The Celebrated Jumping Frog of Calaveras County"***. This short story is deliberately chosen to see how Twain depicted containment and force image schemas in such a story that is supposed to be directed to children. The extracts that contain these two kinds of schema are presented to be analyzed.

The story is about a person whose name is Jim Smiley. Smiley's job is a gambler who bets on about everything and most of the time he wins. He makes use of the fact that people always underestimate things according to their appearances. He never cheats in his bets but he benefits from people's obliviousness to drag them into bets. One day, he trained a frog to jump and made his bet with a stranger who claimed that he had no frog to lock in the bet. Therefore, Smiley went to catch a frog for him so that the bet was held. He left his trained frog with the stranger and what the stranger did was that he opened the frog's mouth and filled it with quail shot. When Smiley came to hold the bet, the frog could not move because it was filled. The stranger wined the bet but before he left, Smiley noticed that his frog burped some of the quail. He tried to catch the cheater (stranger) but he neither caught him nor did he return back his 40 dollars which were the amount of money for the bet.

The extracted data along with their analysis are tabulated for the sake of economy and to avoid repetition.

The Extracted Data	The Entity Described	Metaphorical/ physical	Type of containment
*I have a **lurking suspicion** that Leonidas W. Smiley is a myth.*	Suspicion	Metaphorical (state)	Content (interior)
	Smiley	Metaphorical	Container
*He most always **come out** winner.*	The bet	Metaphorical	Container
	Smiley	Metaphorical	Content (exterior)

There was a feller here once by the name of Jim Smiley, ***in the winter of '49*** *or maybe it was the spring of '50.*	Winter	Metaphorical	Container
	The feller	Metaphorical	Content (interior)
That was only ***in fun****.*	Fun	Metaphorical	Container
	The words spoken about the mare	Metaphorical	Content
But one morning he ***come in****, and Smiley asked how she was.*	Mr. Walker's house	Physical	Container
	Smiley	Physical	Content (interior)
Scattering her legs around limber, sometimes ***in the air****, and sometimes* ***out to one side*** *amongst the fences.*	Air	Metaphorical	Container
	Field	Physical	Container
	The leg	Physical	Content (interior)
	The leg	Physical	Content (exterior)
Smiley always ***come out*** *winner on that pup.*	Bet on pup fighting	Metaphorical	Container
	Smiley	Metaphorical	Content (exterior)
It was a good pup, was that Andrew Jackson, and would have made a name for hisself if he'd lived, for the stuff ***was in him****.*	The frog	Physical	Container
	The stuff (the squail)	Physical	Content (interior)
The next minute you'd see that frog whirling ***in the air*** *like a doughnut.*	Air	Metaphorical	Container
	The frog	Physical	Content (interior)
He got him up so ***in the matter*** *of catching flies, and kept him* ***in practice*** *so constant.*	Matter	Metaphorical	container
	The frog	Metaphorical	Content (interior)

	Practice	Metaphorical	Container
	The frog	Metaphorical	Content (interior)
*Well, Smiley kept the beast **in a little lattice box**.*	The box	Physical	Container
	The frog	Physical	Content (interior)
*One day a feller a stranger **in the camp**.*	The camp	Physical	Container
	The stranger	Physical	Content (interior)
*"What might it be that you've got **in the box**?*	The box	Physical	Container
	Something	Physical	Content (interior)
*"Well," Smiley says, easy and careless, "He's good enough for one thing, I should judge he can outjump any frog **in Calaveras county**."*	Calaveras county	Physical	Container
	The frog	Physical	Content (interior)
*I'll risk forty dollars that he can outjump any frog **in Calaveras county**."*	Calaveras county	Physical	Container
	The frog	Physical	Content (interior)
*So he set there a good while thinking and thinking to hisself, and then he got **the frog out.***	The box	Physical	Container
	The frog	Physical	Content (exterior)
*Smiley he went to the swamp and slopped around **in the mud** for a long time.*	The mud	Physical	Container
	Smiley	Physical	Content (interior)
*The feller took the money and started away; and when he was **going out at the** door.*	Smiley's camp	Physical	Container
	The feller	Physical	Content (interior)
*He **belched out** a double handful of shot.*	The frog	Physical	Container
	The shot	Physical	Content (exterior)
*and took a tea- spoon and **filled** him*	The frog	Physical	Container

*full of quail shot **filled** him pretty near up to his chin.*	The quail	Physical	Content (interior)

These data included in the table are analyzed as being containers or contents. For such a classification to be comprehended, the following characteristics exhibit what each of these classification means:

To be a container means:

1. It is included within a container.

2. It is inside and not outside the container.

3. Hidden within the boundaries of the container.

4. Fixed entity.

To be a content means:

1. It has boundaries.

2. Things are inside it.

3. Fixed entity.

Accordingly, the data analyzed above are analyzed in the following way:

*I have a **lurking suspicion** that Leonidas W. Smiley is a myth.*

The expression 'lurking suspicion' explicates that suspicion is treated in terms of an object that can be hidden and at the same time it is fixed. Thus, suspicion is enclosed within boundaries, so it is an 'in' or 'inside' something (a container: Smiley's mind in this case). This type of image is a metaphorical one.

Beside the metaphorical usage of containment, physical containment schema is also used to map the whole story.

*But one morning he **come in**, and Smiley asked how she was.*

In reference to Smiley's movement, the narrator of the story points to Smiley's entrance into the house of Parson Walker. The house is a physical container into which Smiley physically entered. So Smiley is within the boundaries of Parson Walker's house.

The Extracted Data	**The**	**The Analysis**	**Metaphoric**	**Type of**

	Entity Described		al/ physical	Force
How the other dog ***had him*** *in the door.*	The dog	1. The causation: the agonist is the other dogs. 2. The antagonist: Smiley's dog. 3. Force tendency: motion. 4. The relative strength: stasis.	Physical	Blockage
He would go to work and ***bore me nearly to death*** *with some infernal reminiscence of him.*	Simon Wheeler	1. The causation: the agonist is Simon Wheeler. 2. The antagonist: the narrator. 3. Force tendency: stasis. 4. The relative strength: motion.	Metaphorical	Compulsion
Simon Wheeler **backed me** into a corner.	The narrator	1. The causation: the agonist is Simon Wheeler. 2. The antagonist: the narrator. 3. Force tendency: motion. 4. The relative strength: motion.	Physical	Diversion
And ***blockaded*** *me there with his chair.*	The narrator	1. The causation: the agonist is the narrator. 2. The antagonist is Simon. 3. Force tendency: motion. 4. The relative strength: stasis.	Physical	Blockage

*Then **sat me down** and reeled off the monotonous narrative which follows this paragraph.*	The narrator	1. The causation: the agonist is the narrator. 2. The antagonist: Simon. 3. Force tendency: motion. 4. The relative strength: stasis.	Physical	Blockage
*The feller **took the box** again, and **took another** long.*	The box	1. The causation: the agonist is the feller. 2. The antagonist: Smiley's box. 3. Force tendency: stasis. 4. The relative strength: motion.	Physical	Compulsion
*While thinking and thinking to hisself, and then he **got the frog out.***	Smiley's frog	1. The causation: Smiley's frog. 2. The antagonist: the agonist is the feller. 3. Force tendency: stasis. 4. The relative strength: motion.	Physical	Compulsion
***prized** his mouth open.*	The frog's mouth.	1. The causation: the agonist is the frog's mouth. 2. The antagonist: the feller. 3. Force tendency: stasis. 4. The relative strength: motion.	Physical	Compulsion
*and **set him** on the*	The frog	1. The causation:	Physical	Removal

floor.		the agonist is the frog. 2. The antagonist: the feller. 3. Force tendency: stasis. 4. The relative strength: motion.		
*and finally he **ketched** a frog,*	A frog	1. The causation: the agonist is a frog. 2. The antagonist: Smiley. 3. Force tendency: motion. 4. The relative strength: stasis.	Physical	Blockage
*and **fetched** him in, and give him to this feller.*	A frog	1. The causation: the agonist: a frog. 2. The antagonist: is Smiley. 3. Force tendency: stasis. 4. The relative strength: motion.	Physical	Diversion
*"Now, if you're ready, **set him alongside** of Dan'l.*	A frog	1. The causation: the agonist is a frog. 2. The antagonist: the feller. 3. Force tendency: stasis. 4. The relative strength: motion.	Physical	Removal
*He was **planted as***	The frog	1. The causation:	Metaphoric	Blockage

solid as an anvil.		the agonist is the frog. 2. The antagonist: the quail. 3. Force tendency: motion. 4. The relative strength: stasis.	al	
He couldn't no more ***stir than if he was anchored out***.	The frog	1. The causation: the agonist is the frog. 2. The antagonist: quail. 3. Force tendency: motion. 4. The relative strength: stasis.	Metaphorical	Blockage

The force image schemas described in the aforementioned table can be interpreted in the following way:

How the other dog ***had him*** *in the door.*

Smiley's dog which was set in motion to fight the other dogs in a bet, is stopped by the other dogs. Thus, Smiley's dog is the agonist on which the antagonist (the other dogs) applies a force to prevent his movement. Thus, the resultant image schema is a blockage force image schema.

A different force image schema is that which is described as diversion, as in the following:

Simon Wheeler ***backed me*** *into a corner.*

In this extract, the agonist is the narrator who is forced to diverge his way as a result of applying a metaphorical force by the antagonist (Simon Wheeler). This force obliges the narrator to change his direction of movement. The force comes from the verb 'backed me'.

Other types of force image schemas are analyzed in the same way. Consider the following extract;

prized *his mouth open.*

Here, the agonist is the frog's mouth and the antagonist is the feller. Here, the frog's mouth is something stasis but the force is applied by the feller to oblige the frog to open its mouth.

In the same way, other extracts are analyzed in the same way.

Conclusions

In cognitive semantics, natural language understanding can be attained by getting access to the analysis of the underlying language. This paper contributes in providing a thorough analysis of how the real- world objects are mentally represented, i.e., a representation of the semi- automatic analysis happened in the mind of the reader as (s)he reads the story.

Most of the sentences used in this short story contain image schemas of both types; containment and force. The used schemas are physical as well as metaphorical. They are well depicted in the story so that the reader can easily imagine how things are going on in the story. Analyzing the schemas according to the aforementioned way is what the reader does otherwise, there will be a gap which prevent understanding the story.

Besides, containment image schemas are found to be annexed to prepositions, specifically 'in and out' prepositions. Mostly, the existence of these prepositions in the sentences mark these sentences as containing the containment image schemas. Force image schemas, on the other hand, depend heavily on the meaning of the verb used.

By studying these schemas, we may better comprehend how containment ideas and force relationships are conceptual instruments for interpreting and telling conflict, agency, and constraint within a narrative framework, in addition to being based in physical reality.

References

Encyclopedia Britannica. (2009). 8th ed., s.v. "Internet." Chicago: Encyclopedia Britannica.

Hampe, B. (Ed.) (2005). *From Perception to Meaning: Image schemas in cognitive linguistics*. Berlin-New York: Mouton de Gruyter.

Hampe, B. (2006). *Image-schemas in Cognitive Linguistics: An introduction*. In B. Hampe (Ed.). *From Perception to Meaning: Image Schemas in Cognitive Linguistics* (pp. 1– 14). Berlin: Mouton.

Hurtienne, J. (2011). *Image Schemas and Design for Intuitive Use: Exploring New Guidance for User Interface Design* (Doctoral dissertation). Technische Universität Berlin, Berlin, Germany.

Johnson, M. (1987). *The Body in the Mind: The Bodily Basis of Meaning, Imagination, and Reason*. Chicago: University of Chicago Press.

Krzeszowski, T. (2016). *The Translation Equivalence Delusion. Meaning and Translation.* Frankfurt Main: Peter Lang Verlag.

Lakoff, G. (1987). *Women, Fire, and Dangerous Things*. Chicago: University of Chicago Press.
Lakoff, G., & Johnson, M. (1980). *Metaphors We Live By*. Chicago: University of Chicago Press.

Oakley, T. (2010). *Image Schema.* In Dirk Geeraerts and Hubert Cuyckens, editors, The Oxford Handbook of Cognitive Linguistics, pages 214–235. Oxford University Press, Oxford.

Saeed, J. (2009). *Semantics*. 3rd. ed. London: Blackwell Publishing Ltd.

Szwedek, A. (2017). *The Object Image Schema*. Retrieved 18- 11- 2019 [Available Online at https://www.researchgate.net312371970_The_OBJECT_image_schema].

Talmy, L. (2000). *Toward a Cognitive Semantics*. Cambridge, Mass.: MIT Press.

Twain, M. (1867) *The Celebrated Jumping Frog of Calaveras County*. is available at twain.lib.virginia.edu › projects › price › frog