ID Tracking Model Replaces Billiard Ball Model of Conceptualization

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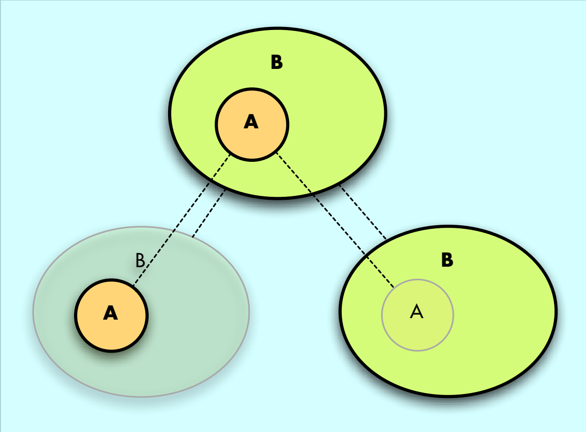
Fig. 1: The relation of {**A**, B} and {A, **B**} to {**A**, **B**}, where A and B denote the **memory-traces** of A and B's co-occurrence in {**A**, **B**}.

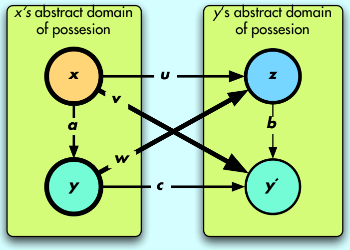


ID tracking model (IDTM for short) of conceptualization was designed to replace so-called **billiard-ball model** (BBM, Langacker 1987, 1991) of it, where conceptualization is (metaphorically) characterized as **an interactive network of entities** (exchanging energy), thereby providing a basis for so-callled **action chain model** (ACM, Croft 1991).

IDTM characterizes conceptualization not in terms of entities; but in terms of **states** (of entities). In a nutshell, IDTM models conceptualization (of dynamic events, at least) as **an interactive network of states**. This enables us to **dispense with motion- or force-based metaphors** to account for grammatical phenomena, which is one of the prerequisites for the ACM/BBM of conceptualization, for good or bad.

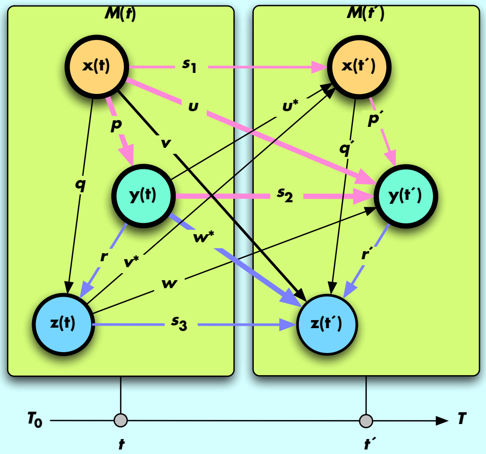
Conceptualizations for (1) and (2) are diagrammed in Fig. 2a, b (Caused-Motion Type), and Fig. 3a, b (Caused-Possesion Type), respectively:
(1) x GIVE y TO z: (e.g., *John gave the book to her*)
(2) x GIVE z y (e.g., *John have her the book*)

Fig. 2a: Entity-based, ACM/BBM characterization of (1)



x **GIVE1** ***y*** **TO** ***z*** profiles ***v***, ***w***, ***x***, ***y***, ***z***
a characterizes *x* **HAVE** *y*
b characterizes *z* **HAVE** *y′*
c characterizes *y* **MOVE**
u characterizes *x* {**FOR, GIVE2**} *y*
v characterizes *x* **GIVE1** *y* (**TO** *z*)
w characterizes *y* **TO** *z*;
w* characterizes *z* {**GET**, **RECEIVE**} *y* (**FROM** *x*)

Fig. 2b: State-based, IDTM characterization of (1)



x **GIVE1** *y* **TO** *z* (primary profile on the {x, y} plane (carnation); secondary profile (orchid) on the {y, z} plane)

PROFILED RELATIONS:
{***u***, ***p***, ***p′***} corresponds to: *x*(*t*) **GIVE1** *y*(*t*) (primary)
{***p***} corresponds to: *x*(*t*) **HAVE** *y*(*t*)
{***p′***} corresponds to: **NOT** *x*(*t′*) **HAVE** *y*(*t′*)
{s_1} corresponds to: *x*(*t*) **R** (primary)
{s_2} corresponds to: *y*(*t*) **MOVE** (primary}
{***w****} corresponds to: *y*(*t*) **TO** *z*(*t*) (secondary)

UNPROFILED RELATIONS:
{***v***} corresponds to: *x*(*t*) **CAUSE** *z*(*t*)
{***w***} corresponds to: *z*(*t*) **RECEIVE** *y*(*t*)
{***u****} corresponds to: *y*(*t*) **FROM** *x*(*t*)
{s_3} corresponds to: *z*(*t*) **R**

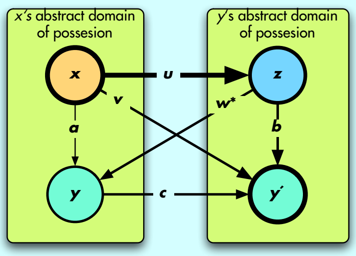
Alternation between (1) and (2) stems from the **competitive interaction among profiles** for lexical realization, a selective process analogous to Darwinian "natural selection" in a sense.

Entity-based and state-based characterizations of conceptualization make a difference, given that (1) **profiles have different degrees of strength** (from 0 to 3 (max), for example); and (2) **only the "winner" profiles are lexically realized**.

Semantic component corresponding to ***v*** wins over ***u*** in (1), whereas ***u*** wins over ***v*** in (2), resulting in the alternation between (1) and (2). In the diagrams, thickness of lines denotes strength of profile; and coloring indicates profile selection/alternation over competition.

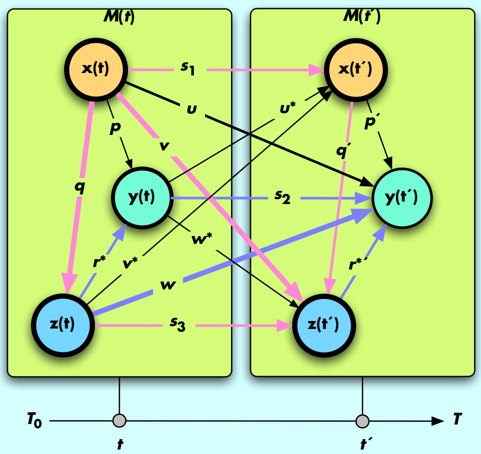
Unlike entities, states exercise no force or motion. So, motion metaphor is no longer "explanatory" in IDTM: states of an entity *x* are always differentiated along time *t*., even if *x* is not moving. This is good because it allows us to represent *x*'s "sameness" explicitly.

Fig. 3a: Entity-based, ACM/BBM characterization of (2)



x **GIVE2** *z y*: profiles ***u***, ***x***, ***y′***, ***z***
a characterizes *x* **HAVE** *y*
b characterizes *z* **HAVE** *y′*
c characterizes *y* **MOVE**
u characterizes *x* **GIVE2** *z y*
v characterizes *x* **GIVE1** *y* **TO** *z*
w* characterizes *z* {**GET**, **RECEIVE**} *y* (**FROM** *x*)
v* characterizes *y′* **FROM** *x*

Fig. 3b: State-based, IDTM characterization of (2)



x **GIVE2** *z y* (primary profile (carnation) on the {x, z} plane); secondary profile (orchid) on the {x, z} plane

PROFILED RELATIONS:
{***v***, ***q***, ***q′***} corresponds to: *x*(*t*) **GIVE2** *z*(*t*) (primary)
{***q***}, {***q′***} correpond to: ??
{s_1} corresponds to: *x*(*t*) **R** (primary)
{s_3} corresponds to: *z*(*t*) **R** (primary)
{***w***} corresponds to: *z*(*t*) **RECEIVE** *y*(*t*) (secondary)
{***r****} corresponds to: **NOT** *z*(*t′*) **HAVE** *y*(*t′*) (secondary)
{***r*′***} corresponds to: *z*(*t′*) **HAVE** *y*(*t′*) (secondary)

UNPROFILED RELATIONS:
{***p***} corresponds to: *x*(*t*) **HAVE** *y*(*t*)
{***p′***} corresponds to: **NOT** *x*(*t′*) **HAVE** *y*(*t′*)
{***u***} corresponds to: *x*(*t*) **LOSE** *y*(*t*)?
{***w****} corresponds to: *y*(*t*) **TO** *z*(*t*)
{s_2} corresponds to: *y*(*t*) **MOVE**
{***u****} corresponds to: *y*(*t′*) **FROM** *x*(*t*) (ternary)