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Lionel Dufaye

► **To cite this version:**

| Lionel Dufaye. ON : A Topological-Cognitive Approach. 2016. hal-01345624v2

HAL Id: hal-01345624

<https://hal-upec-upem.archives-ouvertes.fr/hal-01345624v2>

Submitted on 19 Jul 2016

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ON: A Topological-Cognitive Approach

Lionel Dufaye, Université Paris Est, EA4120 LISAA

ON displays a variety of values which may appear to be wholly unrelated. For instance:

- identification with a surface (*the book on the table*)
- continuity (*The show must go on*)
- detrimental effect (*Don't walk out on me*)
- goal (*The missile homed in on the target*)
- binary oppositions (on the one hand / contrary/ left / the outside...)

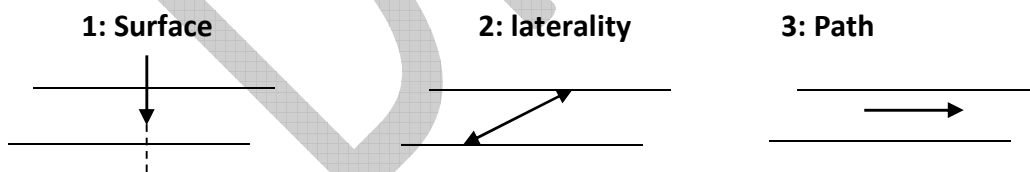
While certain analyses have focused on specific values – mainly the spatial and / or temporal values (Eg. Bennett 1975, Herskovits 1986, Lee 2001) – others have sought to account for the overall semantic flexibility of ON (Eg. Lindstromberg 1998).

To account for this semantic flexibility, we will rely on an abstract set of topological features, which Talmy (2000) described as a "ribbonal" ground:

"The board lay across the railway bed.

The preposition here indicates that the figure (the board) is linear, that the Ground (the railway bed) is "ribbonal"—in other words, a plane bounded along two parallel edges (what Herskovits (1986) terms a "strip")—and that these two forms bear certain positional and orientational relations to each other..." (Talmy, 2000:189)¹

It appears that different positional and orientational relationships can be derived from the different dimensions of a ribbonal ground. Although the concept was originally coined to account for the semantics of ACROSS, 'ribbinality' actually provides an apt description of the topological scene associated ON:



Several properties can be derived from each of these topological dimensions. For Instance, the Path dimension is consistent with aspectual properties such as openness and continuity: *to be on fire, to be on duty, on and on...*, whereas laterality is in agreement with data such as *on the one hand, on the other hand*, etc. As we shall see, each of these three dimensions actually gives way to both extensional and qualitative construals. Hence, in this framework, the semantic plasticity can be analysed as a set.

¹ Talmy, L. (2000) *Toward a Cognitive Semantics, Volumes I*, Cambridge, MA: MIT Press; Chapters 1&3.

1. ON: Sur-face

The prototypical representation that ON brings to mind is certainly that of a configuration where the TR is on top of the LM. And yet, as it has often been noted, this intuitive description is only partly consistent with the data. ON is indeed used to describe spatial relationships where the LM is not below the TR: well-known cases are *The shadow on the wall* (Herskovits 1986), *on the underside* (Lindstromberg 1998), or *The fly on the ceiling* (Lee 2001). Such examples seem to show that the up-down configuration is irrelevant since it obviously is only one among several scenarios. The contextual value depends on the components selected or neutralized by the rest of the context.

Why is it more appropriate to speak of "identification" rather than "contact"? The notion of "contact" has often been used to describe the spatial relationship between the TR and the LM. And indeed it seems that *The book is on the table* means more or less that *The book is in contact with the surface of the table*. Yet "contact" is often inappropriate to describe even spatial relationships. As Herskovitz noticed one could say that there is a shadow on the wall even though there is no physical contact. Similarly, I could say that *the book's on the table* even though there is a newspaper or a napkin between the book and the table so that there isn't physical contact *per se*. For that reason, identification is more neutral and therefore more appropriate.

The identification with a *sur-face* seems to imply that the TR is somewhat higher than the LM. It is often the case, but it is not necessarily so. E.g. there can be *a fly on the ceiling*. The important aspect is that the TR is located relative to the limit of the LM, which can easily be pictured as an open stretch of some kind: a wall, a ground, any surface.... Words that refer to such lexical properties can thus subcategorize for the prep ON; compare e.g.:

1. This film is **based on real events**.
2. It **verged on panic**. / **on the verge of panic**.
3. **On the inside/outside**.

The very meaning of the verb BASE concurs with the representation where the landmark serves as a "basis" for the TR. Note that one would say:

4. This film was **inspired by real events**.

INSPIRE expresses no such 'grounding' notion. What's more, inspire by implies an oblique relationship between the real events and the content of the story; the link between fiction and real life may actually be quite loose. With ON, on the other hand, that relation is supposed to be much more direct; a value which, again, might be explained by the "identification" with a LM.

2. ON: Qualitative discrimination

The TR, whether it is an object, a person, a process..., is located relative to a qualitatively specified LM. E.g. if we observe the following examples:

5. ***at** the night we met
6. ***in** the night we met
7. ***on** the night / * **on** night
8. **on** the night we met / **on** such a night

it appears that ON can only occur with LM that are qualitatively specified by differential properties: the night **we met**, as opposed to any other nights. Qualitative definitude is also at play in a number of uses where the LM refers to a centered value:

9. The missile homed in **on the target**.
10. Satellites have *zoomed in* **on an ancient Egyptian metropolis**.
11. We should **focus/concentrate on the goals** we must accomplish.

The fact that LM refers the central point of an Interior is actually evidenced by the semantics of the predicate:

12. The missile **homed in on** the target.
13. Satellites have *zoomed in on* an ancient Egyptian metropolis.
14. We should **focus²/con-centrate on** the goals we must accomplish.

A target is actually a point that has been selected and hence discriminated from the rest of the domain. A target is by definition Qualitatively specified. However, AT is also compatible with targets

15. Turning toward the line of targets she notched and arrow and *took* **aim at the bull's eye**.

The difference is that ON implies that the target is on a par with the other elements of the domain. Contrariwise, AT can be used to refer to targets with a horizontal orientation where the LM is the end point of a shaft and hence a unique, isolated value. Cf.:

16. He threw a stone AT me.

Whereas ON would be more appropriate in contexts with a downward orientation, where the LM is a discriminated value amongst others all occurring on the same level:

17. He dropped a stone ON me.

So, predicates like CONCENTRATE, ZERO IN, etc. all imply that the target is integrated within a larger domain, but also that it has been discriminated from the rest of the domain.

As a discriminated value it will easily be associated with a "good" or "right" value. A case in point being the adverbial use of ON in:

² Focus = *hearth, fireplace*; hence originally the central place in the house.

18. Right on! = *tout juste* (you're absolutely right)

Where ON came to be used adverbially most probably after an ellipsis of the NP 'the mark', which like the bull's eye, designates a target:

1. You're right on the mark. = Remarque tout à fait pertinente
(Where ON came to be used adverbially most probably after an ellipsis of the NP 'the mark', which like the bull's eye designates a target).

A similar analysis could be put forward to account for uses such as:

19. He bet on a bad horse.
20. He spends all his money on clothes.
21. He wrote a book on Shakespeare.

In each case the TR (He bet/He spends his money/He wrote) is Qualitatively determined by a notion which is favoured over others belonging to the same domain: (one horse rather than another/ clothes rather than food, etc.)

The discriminated value can be related to Eric Gilbert's theory, which assumes that ON expresses Qualitative differentiation:

« avec *on*, on a $Qnt(X) = Y$ et $Qlt(X) Y$, X entrant dans une relation d'identification avec Y pour ce qui est de sa délimitation quantitative, mais de différenciation pour ce qui concerne sa délimitation qualitative. »
(E. Gilbert 2004)

The property of Qualitative definitude is also keeping with other uses such as polar values. Indeed, ON appears in a number of phrases expressing polar / dichotomic oppositions:

- On the right, on the left
- On the one hand, on the other hand
- On the upside, on the downside
- On my side / On the sunny side (of the street)

Sometimes the opposite value is simply implied from the context. For instance, a phrase like ON THE CONTRARY, which in itself expresses opposition does not have an explicit positive counterpart:

22. I can't really claim that **my childhood was miserable**. On the contrary, it was filled with excitement, fun, and good food.

In pretty much the same way, expressions like ON THE OTHER HAND or ON THE DOWNSIDE are most often used without prior mention of their positive counterparts:

23. Newton's forces were only conceivable in relation to space and time as a whole. [...] Einstein, **on the other hand**, rejected both the autonomous character of space and time.

For the same reason, ON THE INSIDE and ON THE OUTSIDE have obvious opposite values, contrary to INSIDE and OUTSIDE which have a neutral locative meaning:

24. She had been prepared to dislike him, for as a rule, pretty men, **overly handsome ones**, were rather hollow **on the inside**. (→ opposition bet. the external features and the inner properties)

Whenever there is a QUALITATIVE relationship involved between the TR and the LM, the LM is *qualitatively* subordinated to the TR.

The most intuitive values that comes to mind when thinking about ON is probably the relation of spatial ascendance, where one object is on top of another. This type of relationship is typically dissymmetrical. This dissymmetry can also be observed in so-called "detrimental" contexts:

25. The phone suddenly went dead **on me**.
26. He has turned his back **on me**.
27. I keep hiding his chair **on him**. (TS, S2, Ep.9)

This is what Lindstromberg calls '*the burden metaphor*'.

"For example, if you have something 'on' your mind, you are metaphorically burdened with a concerned. Having something 'in' your mind, is quite different since *in* involves [...] conceiving of mind as a container of thoughts, intentions and so forth."

(Lindstromberg: 61)

For cognitivists such examples would be interpreted as an anaphoric derivation of the gravitational property. But we should also note that, in those contexts, ON introduces a LM which, although it is affected by the process, is not an actual actant of it. Indeed, in all those examples, the LM endures the consequences of someone's action, but it is by no means what we would call a patient.

As we saw earlier on, ON does not correspond to the end of a path, contrary to AT and TO. With AT and even more with TO, the endpoint is part of a SOURCE-PATH-GOAL frame. With ON, the LM is only a discriminated value among others but is not defined by the outcome of a path. A property that may also explain why ON can neutralize teleonomic values:

28. I cut myself with a piece of glass (deliberately).
29. I cut myself on a piece of glass (???deliberately).

With the Prep WITH, the LM is understood as an instrument, and is thus part of the process itself: the means whereby an agent affects a patient; but with ON, here again, the LM is not understood as an instrument, and is thus not part of the AGENT=> PATIENT pattern. Similarly, in:

30. I keep hiding his chair **on him**.

The LM introduced by ON is peripheral to the AGENT=> PATIENT frame of action, which is expressed by a fully saturated Predicative Relation: <I, hide, chair>.

Interestingly enough, although some predicates are commonplace with the detrimental value, such as:

31. Her dad **walked in on us** while we were making out.

While other predicates with a more or less similar value are - at best – awkward:

32. ???Her dad **appeared on us** while we were making out.

Although one could say:

33. Her dad **disappeared on us** one cold winter night.

It would seem that both WALK IN and DISAPPEAR describe a subject's behaviour; whereas APPEAR does not really describe the activity of a subject but rather the perception of a speaker. So in fact, the detrimental value is really a relationship between a person on the one hand and the activity of a subject on the other hand (be it an agentive or a non-agentive activity).

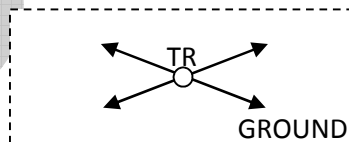
Lindstromberg actually extends his "*burden metaphor*" to cases such as.

34. The drinks are **on me**.

Which does not seem to express such a strong detrimental relationship, since "the burden is volunteered for" willingly (Lindstromberg: 61) by the speaker; now the fact that the burden is indeed self-imposed is a contextual variation but what remains is the negative interpretation of a situation endured by a subject.

3. ON: Quantitative openness and linearity

We said that with ON the TR appears against a level ground, which can easily be construed as an open stretch of some kind.



This "open" property is actually very important as far as ON is concerned.

Compare:

35. He was born in a farm.

36. He was born on a farm.

IN would be merely spatial, in that it would locate the TR relative to the inner volume of the farm = a 3D bounded structure. With ON the farm has a functional interpretation. Meaning

that the person's parents were farmers, or that farmer's life is not something he's unfamiliar with. If the LM is incompatible with that sort of functional interpretation, then IN will probably be the only appropriate Prep:

37. He was born **in**/***on** a chicken house.

So, ON, because of an OPEN topology, neutralizes the closed configuration of 3D LMs: consequently, *to be born on a farm* will not locate the event <he – be born> relative to the interior of the LM. Also compare:

38. They found a body **in** the river.

39. They found a body **on** the river.

ON most probably implies that the body was drifting with the flow and floating, or more likely along the river bank; whereas IN specifies that the body was found somewhere between the surface and the bottom of the river. In other words, IN locates the TR relative to the interior of the river, ON relative to its surface. But this explanation does not suffice, because one wouldn't say:

40. *They found a body **on** the swimming-pool.

even if the body was floating. The difference between a river and a swimming-pool is that a river is a linear open stretch whereas a swimming pool is a closed, fully bounded area.

Let's now consider:

41. Esther is **on the train/bus/plane/boat**.

42. *Esther is **on the taxi**.

Just like the swimming pool a taxi is a closed. But the same thing could be said about a train or a bus. The difference though is that trains and buses have platforms which enable people to move from back to front. Again, this explanation does not suffice however:

43. Esther is ***on the old train on display in the museum**.

44. Esther is **in the old train on display in the museum**. (McIntyre, 2001)

In other words, one would not use ON if the train is not functional, and hence does not circulate along a train line. These examples show that it's not only the intrinsic linear properties of the LM that matter, but also its functional dimension. And indeed we speak of:

bus **lines**, subway **lines**, train **lines** and **liners**.

By extension, we understand why ON should also be used for means of communication:

45. **online**, **on the telephone (line)**, **on the Internet**

Metaphorically, the information travels from one point to another, and hence communication systems can be construed as paths. The OPEN property might also have motivated the use of ON for the radio and the television:

46. **on television, on the radio...**

since television and the radio provide a continuous flow of information. Or, as we say with the Internet, we have an

47. always-**on** connection.

Note that the open & linear properties of ON explain why that Prep is used with LM such as BORDER, EDGE, VERGE, BRINK, etc. which refer to linear stretches. But firstly, it is interesting that the collocation with ON holds even when they are used metaphorically:

48. Her voice was edgy, **verging on** panic.

49. His remarked **bordered on the absurd**.

And more important still, it appears that the Prep can occur either as a specifier or as a complement depending on whether the notion occurs as a Noun or as a Verb:

50. Her voice was edgy, **edging/verging on** panic.

51. Her voice was edgy, **on the edge/verge** of panic.

Which means that the same semantic relationship between the TR (*her voice*) and the LM (verge of panic) can be expressed through different syntactic distributions of the Prep. In a way, the syntax adapts to enable the semantic information to surface.

3.1. Openness and processual uses

The OPEN topology of ON is well illustrated by its adverbial uses, which express an oriented continuity:

52. I was tired but I **chopped on / carried on**.

53. **From now / then / Monday... on**.

54. Things like what people believe, doubt, know, wish for, **and so on** (= the list *continues* or *goes on*).

Interestingly enough, ON makes the use of a direct object incompatible:

55. I was tired but I **chopped** the tree(s) **on**.

Conversely a telic particle like DOWN makes the object mandatory:

56. I chopped the tree **down**.

57. *I chopped **down**.

We may hypothesize that the object, which undergoes the change of state, is incompatible with a particle that expresses atelicity (i.e. the absence of a notional endpoint).

It should also be noted that in such cases ON expresses processual (i.e. Quantitative) continuity; but it is not incompatible with Qualitative discontinuity, which can be encoded by an alternance between TO V and V-ing:

58. Around 30% of patients with this disease **go on to** develop acute hepatitis.

59. I care about the principle that patents are vital to protect the profitability of the pharmaceutical industry - so it can **go on developing new** drugs.

Whereas TO conveys the idea of a change of state (the disease evolves into a new stage), the GERUND implies continuity: the industry carries on doing what it's always done. Ongoing activities can actually also be expressed by the preposition:

60. I was on the pill back then.

61. I'm on my way.

It's easy in such uses to paraphrase the activity by a so-called Present continuous (i.e. a Present Participle). And there is an interesting contrast to be drawn between ON and one of its antonymic counterpart, UNDER, since UNDER is obviously more likely to be paraphrased by a Past Participle:

ON > -ING:

to be on fire = to be burning

to be on parade = to be parading

to be on hold = to be waiting

to be on duty = to be working...

UNDER > -EN

to be under siege = to be besieged

to be under threat = to be threatened

to be under the influence = to be drugged up

to be under arrest = to be arrested...

In this respect, TO BE **ON TRIAL** appears as a counter-example, since the most straightforward paraphrase should be:

62. To be **on trial** > To be **tried**

The selection of ON instead of UNDER in this case can probably be explained by the fact that trials usually occur over a certain period of time, so that the open, linear dimension probably prevails in this case. One may wonder we say ON THE PILL but never UNDER THE PILL:

63. I was **on the pill** back then.

64. *I was **under the pill** back then.

Especially so since the pill is a medication, and it is perfectly normal to be UNDER MEDICATION:

65. He, at the moment, is still **under medication** and too ill to be questioned.

In fact, UNDER seems much more likely when the subject's capacity is affected by the drug; the Past Participle is indeed the trace of the change of state that affects the subject. A locution like **under the influence** is an explicit illustration of this value:

66. Sending a person back to combat duty still **under the influence** of psychoactive drugs may be dangerous.

To be ON MEDICATION is more neutral and refers simply to an ongoing treatment. So, understandably, the pill is unlikely to affect the subject's abilities, so that UNDER is inappropriate in such contexts.

3.2. Openness and atelicity

The following examples might seem unrelated at first sight, and might just as well be dealt with in relation to the property of "contact":

67. I cut my finger **with** a piece of broken glass (intentionally).

68. I cut my finger **on** a piece of broken glass (???intentionally).

But interestingly, ON actually neutralizes the agentive interpretation of the PP which could otherwise be understood as an instrumental adjunct. In fact, ON locates the event <cut my finger> relative to a LM, but unlike WITH it does not stage a source-toward-goal relation; in fact, WITH entails a dual relationship which goes hand in hand with an agent-to-patient frame. But ON appears here to neutralize the idea of a GOAL. This neutralization of an endpoint is in accordance with its open topology. In much the same way, we could compare the following examples:

69. Mom had once again run to the bank, and I was in the front of the store putting fresh macaroons into the display case while Dad **waited on** customers.

70. ≠ . . .while Dad **waited for** customers.

FOR indicates a GOAL, in the sense that the waiting will end as soon as customers arrive. On the other hand, ON describes an ongoing activity.

* * *

As a (short) conclusion, we can say that the central meaning of ON can be represented by a set of properties which, by way of analogy, we compared to that of a ribbon. But its contextual value depends on the dimension that is foregrounded by the contextual elements.

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