Argument structure and Mapping Theory

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Polish constructions with intermediary agents (a case study) Academia Salensis Lecture 2

- An investigation of the full range of possible participant-function mappings available for the classes of verbs in Polish which denote predicates entailing an 'intermediary agent' (for a full account see Kibort 2009).
 - An intermediary agent is a semantic participant that can be conceptualised as an instrument or means with which the event is accomplished, or alternatively as the causer or instigator of this event.
 - The particular verb classes involved include verbs of emission of smell, sound, or light, verbs expressing expansion of an aggregate or a mass/abstract entity (corresponding roughly to the English SWARM verbs), and verbs expressing physical or psychological states due to a stimulus which can be interpreted as an intermediary agent.

(1)	a. pachniećb. śmierdziećc. cuchnąć	'emit fragrance' 'smell' 'stink'	(4)	a. roić się b. kipieć c. pęcznieć	'swarm, teem' 'seethe, effervesce' 'swell, bulge'
(2)	a. grzmieć b. szumieć c. huczeć	'rumble, roar''hum, throb, rustle''rumble, reverberate'		d. mrowić się e. wrzeć f. przelewać się	'teem, swarm' 'seethe, throb' 'overflow'
(3)	b. bielić się	'glisten, be iridescent' 'appear to be white and shiny, glisten'			
	c. migotać	'glitter, shimmer'			

1. The oblique place + oblique emitter construction

- (5) a. W domu pachnie kawą. in house emit-fragrance.3sg.(N) coffee(F).INS 'There is a smell of coffee in the house.'
 - b. Śmierdziało moczem w całym korytarzu. smelt.3sg.n urine(m).ins in whole corridor 'There was a smell of urine in the whole corridor.'
- (6) a. Na forach grzmiało od głosów niezadowolenia. on forums roared.3SG.N from voices(NONVIR).GEN discontent(N).GEN '[Internet] forums were roaring with voices of discontent.'
 - b. W głowie szumiało od muzyki.in head throbbed.3SG.N from music(F).GEN'The [my/his/her] head was throbbing with music.'
- (7) a. Na ulicach mieniło się od świątecznych dekoracji. on streets glistened.3SG.N REFL from festive.PL.GEN decorations(NONVIR).GEN 'The streets glittered with festive decorations.'

- b. W ogrodzie bieli się od szronu. in garden appear-white.3SG.(N) REFL from hoarfrost(M).GEN 'The garden is glistening with hoarfrost.'
- (8) a. W ogrodzie roiło się od pszczół. in garden swarmed.3SG.N REFL from bees(NONVIR).GEN 'The garden was swarming with bees.'
 - b. W głowach kipiało nam od pomysłów. in heads seethed.3sg.n us.dat from ideas(NONVIR).GEN 'Our heads were seething with ideas.'
 - c. W sercu pęczniało od gniewu. in heart swelled.3sg.n from anger(M).gen 'The [my/his/her] heart was swelling with anger.'

2. The subject place + oblique emitter construction

- (9) a. Dom pachnie kawą. house(M).NOM emit-fragrance.3sg.(M) coffee(F).INS 'The house smells of coffee.'
 - b. Cały korytarz śmierdział moczem. whole.m.nom corridor(m).nom smelt.3sg.m urine(m).ins 'The whole corridor smelt of urine.'
- (10) a. Fora grzmiały od głosów niezadowolenia. forums(NONVIR).NOM roared.3PL.NONVIR from voices(NONVIR).GEN discontent(N).GEN '[Internet] forums were roaring with voices of discontent.'
 - b. Głowa szumiała od muzyki. head(F).NOM throbbed.3SG.F from music(F).GEN 'The [my/his/her] head was throbbing with music.'
- (11) a. Ulice mieniły się od świątecznych dekoracji. streets(NONVIR).NOM glistened.3PL.NONVIR REFL from festive.PL.GEN decorations(NONVIR).GEN 'The streets glittered with festive decorations.'
 - b. Ogród bieli się od szronu. garden(M).NOM appear-white.3SG.(M) REFL from hoarfrost(M).GEN 'The garden is glistening with hoarfrost.'
- (12) a. Ogród roił się od pszczół. garden(M).NOM swarmed.3SG.M REFL from bees(NONVIR).GEN 'The garden was swarming with bees.'
 - b. Głowy kipiały nam od pomysłów. heads(NONVIR).NOM seethed.3SG.NONVIR us.DAT from ideas(NONVIR).GEN 'Our heads were seething with ideas.'
 - c. Serce pęczniało od gniewu. heart(N).NOM swelled.3SG.N from anger(M).GEN 'The [my/his/her] heart was swelling with anger.'

3. The subject emitter + oblique place construction

(13) a. Ta kawa pięknie pachnie w całym domu. this coffee(F).NOM beautifully emit-fragrance.3SG.(F) in whole house 'This coffee smells beautifully in the whole house.'

- b. Mocz śmierdział w całym korytarzu. urine(M).NOM smelt.3SG.M in whole corridor 'The urine smelt in the whole corridor.'
- (14) a. Na forach grzmiały głosy niezadowolenia. on forums roared.3PL.NONVIR voices(NONVIR).NOM discontent(N).GEN 'On [internet] forums were roaring voices of discontent.'
 - b. Muzyka szumiała w głowie. music(F).NOM throbbed.3SG.F in head 'The music was throbbing in the [my/his/her] head.'
- (15) a. Na ulicach mieniły się świąteczne dekoracje. on streets glistened.3PL.NONVIR REFL festive.NONVIR.NOM decorations(NONVIR).NOM 'On the streets glittered festive decorations.'
 - b. Szron bieli się w ogrodzie. hoarfrost(M).NOM appear-white.3SG.(M) REFL in garden 'Hoarfrost is glistening in the garden.'
- (16) a. W ogrodzie roiły się pszczoły.
 in garden swarmed.3PL.NONVIR REFL bees(NONVIR).NOM
 'In the garden were swarming bees.'
 - b. W głowach kipiały nam pomysły. in heads seethed.3PL.NONVIR us.DAT ideas(NONVIR).NOM 'In our heads were seething [new] ideas.'
 - c. Gniew pęczniał w sercu. anger(M).NOM swelled.3SG.M in heart 'Anger was swelling in the [my/his/her] heart.'

3. Participants competing for the same argument status

(17) a. The peasant loaded (the) hay onto the wagon.

OBJ OBLA

b. The peasant loaded the wagon with (the) hay.

OBJ OBL₀

(18) a. That acorn will grow into an oak tree.

SUBJ OBL_A

b. An oak tree will grow from that acorn.

SUBJ OBL_A

(19) a. Dom pachnie kawą. = (9a) house(M).NOM emit-fragrance.3SG.(M) coffee(F).INS

SUBJ OBL₀

b. Ta kawa pachnie w całym domu. = (13a) this coffee(F).NOM emit-fragrance.3SG.(F) in whole.M.LOC house(M).LOC

SUBJ OBL₀

(20) a. Ogród roił się od pszczół. = (12a) garden(M).NOM swarmed.3SG.M REFL from bees(NONVIR).GEN

SUBJ OBL θ

b.	Pszczoły	roiły się	w ogrodzie.	= (16a)
	bees(nonvir).nom	swarmed.3PL.NONVIR REFL	in garden(м).Loc	
	SUBJ		OBLO	

- Differences in the interpretation of the variants such as the holistic vs partitive effect of the locative alternation illustrated in (17) is regarded as evidence that the variants do not actually involve 'the same' predicates, but that they share the base lexeme and that the predicates are related to each other by some sort of lexical mechanism.
- However, it is not clear whether it is possible to establish which variant is more basic, at least in English in this respect, they seem to have equal status, and formalisations of the alternations should be able to reflect this.

4. Modelling the locative alternation with Mapping Theory (MT)

(21) A universally available syntactic subcategorisation frame with fixed argument positions:

 OBL_{θ}

 OBL_{θ}

$$< arg_1 arg_2 arg_3 ... arg_4 ... arg_n > [-0]/[-r] [-r] [+0] [-0]$$

OBJ

(22) a. The peasant loaded (the) hay onto the wagon.

b. The peasant loaded the wagon with (the) hay.

OBJ

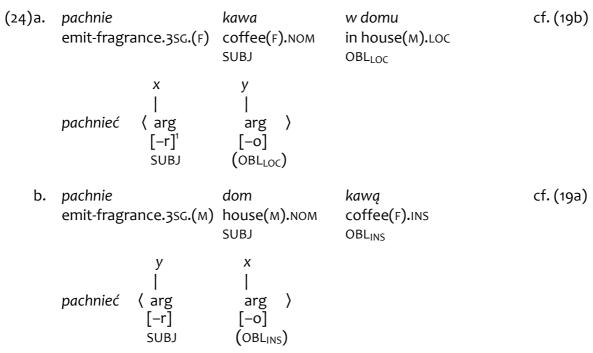
(23) a. Peter füllte Wasser in den Tank. Kordoni (2003: 262-263)

OBJ OBLO

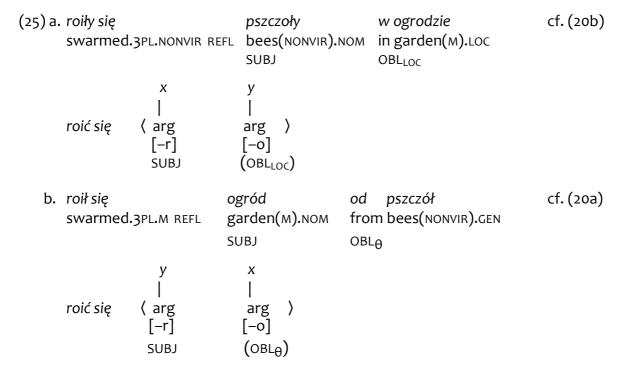
b. Peter füllte den Tank mit Wasser.

5. Modelling the emitter-place alternations with LMT

The verb pachnieć 'emit fragrance' typically involves two participants: the emitter of the fragrance (x), and a location (y). Two simple mapping options involving these two participants are:



Similarly, the verb roic się 'swarm' typically involves two participants: the entity which swarms (x), and a location (y), with the following two simple mapping options:



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¹ I assume that this verb is unaccusative, though nothing in the present discussion hinges on this assumption.

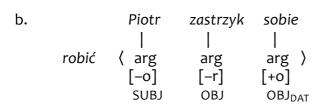
What is the 'dummy' instigator in the oblique place + oblique emitter construction?

6. Distinguishing between semantic participants and referents

(26) a. Piotr robi sobie zastrzyk.

Peter(M).NOM make.3SG.(M) self.DAT injection(M).ACC

'Peter gives/is giving himself an injection.'



c.
$$x_i$$
 y b_i $|$ $|$ robić \langle arg arg arg \rangle $[-o]$ $[-r]$ $[+o]$ SUBJ OBJ OBJDAT

The MT representation in (26) bears some correspondence to diagrams found in traditional descriptive linguistic work on diathesis, such as Geniušienė's (1987), cited in Klaiman (1991: 66):

(27)

(i) 'Ordinary transitive diathesis'

Person1	Person2
Agent	Patient
Subject	Object

(ii) 'Diathetical semantic reflexive'

Person1		
Agent	Patient	
Subject		

(iii) 'Nondiathetical semantic reflexive'

Person1			
Agent	Patient		
Subject	Object		

(28) a. Piotr zasłonił sobą słońce.

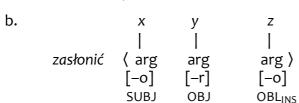
Peter(M).NOM blocked.3SG.M self.INS sun(N).ACC

'Peter blocked/shaded the sun with himself.'

(29) a. Piotr zasłonił słońce parawanem.

Peter(M).NOM blocked.3SG.M sun(N).ACC screen(M).INS

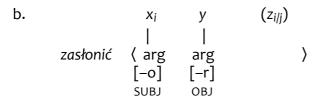
'Peter blocked/shaded the sun with a screen.'



(30) a. Piotr zasłonił słońce.

Peter(M).NOM blocked.3SG.M sun(N).ACC

'Peter blocked/shaded the sun.'



(31) a. Piotr zasłonił słońce.
Peter(M).NOM blocked.3SG.M sun(N).ACC
'Peter blocked/shaded the sun.'

To sum up, zasłonić 'block/shade/cover' entails three semantic participants: an agent/causer, patient, and instrument/means, but it involves only two (rather than three) referents when the causer and the means co-refer.

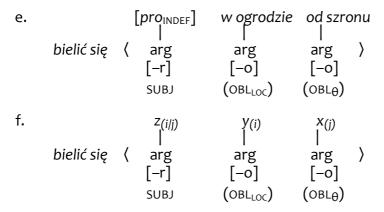
7. pro-drop constructions in Polish

- (32) Zobaczył, że drzwi są otwarte i wszedł.
 saw.3sg.m that doors are open and went-in.3sg.m
 '[He/Someone/They] saw that the door was open and went in.'
- (33) Wiało, jakby chciało powyrywać drzewa z korzeniami. blew.3SG.N as-if wanted.3SG.N pull-out.INF trees with roots '[It/Something] was blowing as if it wanted to pull out trees with their roots.'
- (34) Rzuciło go w bok. threw.3sg.N him to side '[It/Something] threw him to the side.'
- Contrary to tradition, predicates expressing weather phenomena and natural forces are now beginning to be recognised more widely as <u>syntactically</u> and/or <u>morphologically</u> personal in many languages in which weather verbs do not preclude the use of a lexical subject such as 'rain', 'wind', 'sky', 'universe/world/time' etc., and are capable of carrying corresponding inflection (e.g. all East Caucasian languages except Nakh Daniel, Khalilova and Molochieva 2008; several Oceanic languages Moyse-Faurie 2011; various Afroasiatic Mettouchi and Tosco 2011; various Uralic Salo 2011; see also a 2008 discussion thread in lingtyp).
- Polish weather clauses, adversity impersonals, and other apparently subjectless clauses involving verbs of physical or psychological states do not lack a syntactic subject even when they occur without a lexical subject. This subject participates in syntactic control and raising, and can be realised overtly. When unexpressed, it can be analysed as the dropped indefinite pronoun referring to non-humans (*pro*_{INDEF}) (for more discussion see Kibort 2004: 295-318 and 2006/2008).

- The same line of argumentation, and the same LFG analysis of unexpressed pronouns, can be appplied to the apparently subjectless Polish construction in Section 1:
 - The verbs themselves are obviously not impersonal, since they easily admit and commonly appear with an overt nominative subject, and fully agree with an overt subject's inflectional properties (see Sections 2 and 3).
 - There are no morphosyntactic restrictions that would prevent these verbs from agreeing with a subject in a person other than third – that is, the predicates in question have a complete inflectional paradigm of personal verbs.
 - Any Polish verb that can express an event whose causer/instigator is non-human may occur with an overt indefinite pronoun (coś 'something') expressing the subject.
 - When they occur without a lexical subject, the unexpressed proinder subject is capable of syntactic control and raising e.g. Pachnie, jakby chciało cię omamić '[It/Something] smells as if it wanted to charm you'; W ogrodzie bieli się od szronu, przypominając o nadchodzącym Nowym Roku 'In the garden [it/something] is glistening with hoarfrost, reminding about the up-coming New Year'; Zdawało się roić od pszczół '[It/Something] seemed to swarm with bees', etc.
- Therefore, the oblique place + oblique emitter construction in Polish is only functionally impersonal, but it is not subjectless. It has a fairly ordinary syntactic subject which is the pro_{INDEF}, which behaves syntactically like any other pro subject, and which can be given a standard syntactic analysis of an 'unexpressed/incorporated' pronoun or pronominal inflection.

8. The instigator in the oblique place + oblique emitter construction

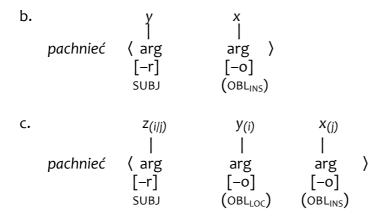
- In terms of grammatical functions, this construction has: a prointer subject, and up to two optional oblique arguments
- Re semantic participants, the functionally impersonal variant of the predicate entails: an unspecified instigator/causer an optional instrument/means with which the activity of the instigator is achieved and an optional location
- The unspecified instigator/causer does not have an independent referent.
- (35) a. W domu pachnie kawą. = (5a) in house emit-fragrance.3sg.(N) coffee(F).INS
 'There is a smell of coffee in the house.' [lit. '(It) smells of coffee in the house.']
 b. Ale pachnie.
 how emit-fragrance.3sg.(N)
 'What a fragrance!' [lit. 'How (it) emits fragrance.']
 c. Pachnie w tym domu.
 emit-fragrance.3sg.(N) in this house
 'There is a fragrance in this house.' [lit. '(It) emits fragrance in this house.']
 - d. Pachnie kawą.
 emit-fragrance.3sg.(N) coffee(F).INS
 'There is a smell of coffee.' [lit. '(It) smells of coffee.']



'It is glistening with hoarfrost.' [lit. '(It) glistens with hoarfrost.']

9. Intermediary agents in other pro_{INDEF}-drop constructions

The following is a summary view of the three different syntactic frames available for the class of Polish predicates discussed in the sections above, that is verbs of emission of smell, sound, or light, and verbs expressing expansion of an aggregate or a mass/abstract entity. I use pachnieć 'emit fragrance' as the example, and retain the coding of the semantic participants throughout as: x=emitter; y=location; and z=the unspecified instigator/causer. Note that this class of verbs is intransitive:



An analogous MT analysis can be applied to two more classes of predicates in Polish, most of which are typically used <u>transitively</u>:

- o predicates denoting some physical or psychological states,
- o and predicates used in the so-called 'adversity impersonal' construction.

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9.1 Intermediary agents co-occurring with experiencers

Polish verbs denoting various physical or psychological states typically entail an experiencer participant and an (optional) stimulus participant:

(38) Mdli/Dusi/Skręca/Ciągnie/Boli/Swędzi/Kłuje mnie.
nauseate/choke/convulse/pull/ache/itch/stab.3sg.(N) me.ACC
'[Something] makes me nauseous/choke/convulse/contract my muscles/ache/itch/gives me shooting pains.'

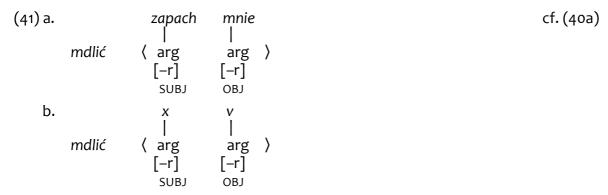
All of these verbs typically appear with an experiencer marked for accusative case. However, they also frequently collocate with a particular oblique expression of the stimulus, for example:

- (39) a. Mdli/Dusi/Skręca mnie od tego zapachu.
 nauseate/choke/convulse.3sg.(N) me.Acc from this smell
 'This smell makes me nauseous/choke/convulse.' [lit. '(It) makes me nauseous/choke/convulse from this smell.'
 - b. Mdli/Dusi/Skręca mnie z bólu/zazdrości. nauseate/choke/convulse.3sg.(N) me.Acc from pain/envy 'The pain/envy makes me nauseous/choke/convulse.' [lit. '(It) makes me nauseous/choke/convulse from pain/envy.'

This construction in Slavonic has frequently been regarded as impersonal (e.g. Franks 1995: 70ff; Babby 1998: 6ff; Nagórko 1998: 266; Saloni and Świdziński 1998: 150; Śpiewak 2000: 169). However, contrary to the common assumption that these predicates do not accept a nominative subject, in modern Polish their morphosyntax does not disallow it. Furthermore, the verbs have a full personal paradigm. Consider the following examples:

- (40) a. Wszystkie zapachy mnie mdliły.
 all.NONVIR.NOM smells(NONVIR).NOM me.ACC nauseated.3PL.NONVIR
 Nawet zapach kawy mnie mdlił.
 even smell(M).NOM coffee(F).GEN me.ACC nauseated.3SG.M
 'All smells made me nauseous. Even the smell of coffee made me nauseous.'
 - b. Ból skręcał mnie niemiłosiernie. pain(M).NOM convulsed.3SG.M me.ACC mercilessly 'The pain convulsed me mercilessly.'
 - c. Bolała/Swędziała mnie głowa. ached/itched.3sg.F me.Acc head(F).NOM 'My head ached/itched.'
 - d. Coś mnie dusi. something(N).NOM me.ACC choke.3SG.(N) 'Something makes me choke.'
 - e. Dusity mnie te zapachy. choked.3PL.NONVIR me.ACC these.NONVIR.NOM smells(NONVIR).NOM 'Those smells made me choke.'

I offer the following MT representations for the two syntactic frames available to these predicates. I use the verb mdlic 'nauseate' as an illustration and code its semantic participants throughout as: x=stimulus; v=experiencer; z=the unspecified instigator/causer. The first syntactic frame, in (41), models the second clause in example (40a):



And the following syntactic frame models examples (38) and (39a):

9.2 Intermediary agents co-occurring with patients

Finally, the following are examples of the so-called 'adversity impersonals' in Polish:

(43) a. Zasypało drogę.

covered.3SG.N road(F).ACC

'The road got covered (with snow or sand).' [lit. '(It) covered the road.']

b. Zasnuło las.

enveiled.3sg.N forest(M).Acc

'The forest got enveiled (with fog or smoke).' [lit. '(It) enveiled the forest.']

c. Biło człowieka w twarz.

beat.3SG.N man(M).ACC into face

'One was beaten in the face (by rain/sleet/hail).' [lit. '(It) beat one in the face.']

Apart from typically appearing with a patient which is expressed through a direct object, adversity impersonals may also include an instrumental argument which is commonly interpreted as denoting the 'cause' (Wierzbicka 1966, Doros 1975, Siewierska 1988):

(44) a. Zasypało drogę śniegiem.

covered.3SG.N road(F).ACC snow(M).INS

'The road got covered with snow.' [lit. '(It) covered the road with snow.']

b. Las zasnuło mgłą.

forest(M).ACC enveiled.3SG.N fog(F).INS

'The forest got enveiled with fog.' [lit. '(It) enveiled the forest with fog.']

c. Biło deszczem w twarz.

beat.3sg.n rain(M).INS into face

'The rain beat one/you in the face.' [lit. '(It) beat in the face with rain.']

This construction has also frequently been regarded as impersonal (e.g. Wierzbicka 1966 and Wlodarczyk 1993 for Polish; or Mel'čuk 1979 for a cognate Russian construction). However, like the other constructions discussed here, this one also happily accepts a nominative causer/instigator. First, we find clauses corresponding to the ones in (44) where the same 'cause' participant is expressed through a NOM subject rather than an INSTR argument:

- (45) a. Śnieg zasypał drogę. snow(M).NOM covered.3SG.M road(F).ACC 'Snow covered the road.'
 - b. Mgła zasnuła las. fog(F).NOM enveiled.3SG.F forest(M).ACC 'Fog enveiled the forest.'
 - c. Deszcz bił w twarz. rain(M).NOM beat.3SG.M into face 'The rain beat one/you in the face.'

And second, we find clauses corresponding to the ones in (44) where the 'cause' participant remains expressed through an INSTR argument, but additionally there is a NOM subject denoting a natural force (or exceptionally an agent). Its referent is different from the INSTR nominal; it is interpreted as the actual (rather than unspecified or unidentified) instigator of the event which uses the participant expressed through the instrumental as its instrument or means:

- (46) a. Huragan zasypał drogę śniegiem. storm(M).NOM covered.3SG.M road(F).ACC snow(M).INS 'The storm covered the road with snow.'
 - b. Niewidzialna ręka zasnuła las mgłą. invisible.F.NOM hand(F).NOM enveiled.3SG.F forest(M).ACC fog(F).INS 'An invisible hand enveiled the forest with fog.'
 - c. Wichura biła deszczem w twarz. strong-wind.(F).NOM beat.3SG.F rain(M).INS into face 'The strong wind beat one/you with rain in the face.'

Siewierska (1988: 276) remarks that the construction in (44), which contains both an accusative argument and an instrumental one, bears a striking resemblance to the passive. As it could be seen to be derived from the construction in (46), it has been classified by some linguists as passive. However, both (45) and (46) have their legitimate and morphologically regular passives, as in (47) and (48), respectively:

- (47) a. Droga została zasypana przez śnieg. road(F).NOM became.3SG.F covered.PART.SG.F by snow 'The road got covered with snow.'
 - b. Las został zasnuty przez mgłę. forest(M).NOM became.3SG.M enveiled.PART.SG.M by fog 'Fog enveiled the forest.'
 - c. Człowiek był bity w twarz przez deszcz. man(M).NOM was.3SG.M beat.PART.SG.M into face by rain 'One was beaten in the face by the rain.'
- (48) a. Droga została całkowicie zasypana śniegiem przez huragan. road(F).NOM became.3SG.F completely covered.PART.SG.F snow(M).INS by storm 'The road got completely covered with snow by the storm.'

- b. Las został zasnuty mgłą jakby przez niewidzialną rękę. forest(M).NOM became.3SG.M enveiled.PART.SG.M fog(F).INS as-if by invisible hand 'The forest got enveiled with fog as if by an invisible hand.'
- c. Człowiek był dosłownie bity deszczem w twarz przez tę wichurę. man(M).NOM was.3SG.M literally beat.PART.SG.M rain(M).INS into face by this strong-wind 'One was literally beaten in the face with the rain by this strong wind.'

Instead of a passive analysis of the construction in (43) and (44), I suggest that it should be analysed in the way analogous to the other constructions discussed above. Namely, the predicates in (43)-(44) involve an unspecified instigator/causer, a patient, and an instrument.

I offer the following MT representations for the three syntactic frames available to the predicates which are found in 'adversity impersonals'. I use the verb zasypać 'cover [by spilling/pouring a grainy substance]' as an illustration and code its semantic participants throughout as: z=instigator/causer/agent, v=patient, x=instrument/means/theme. The first syntactic frame, in (49), models the examples in (45):

The following syntactic frame models the examples in (46):

And, finally, the following syntactic frame models the examples in (43)-(44):