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ON ENGLISH VERBS EXPRESSING NATURAL PHENOMENA

1. WHAT ARE NATURAL PHENOMENA?

Unoriginal as it may be, let me begin with quoting three dictionary definitions:

“*phenomenon* – [...] fact or occurrence, esp in nature or society, that can be perceived by the senses” [Hornby (ed.) 1989: 927],

“*natural* – [...] of, concerned with or produced by nature (1), *not by man.*” [Hornby (ed.) 1989: 824], emphasis mine,

“*nature 1* – [...] the whole universe, and every created, *not man-made thing*” [Hornby (ed.) 1989: 825], emphasis mine.

In view of that, it becomes clear that my concern here are verbs expressing facts taking place in nature, but neither “performed by” nor “happening to” man. Therefore all verbs where man is either the agent or the experiencer are excluded from my analysis. This restriction is certainly arbitrary and perhaps arguable. Some language users might insist that such verbs as *urinate*, *bleed*, or *sweat* belong to the “natural phenomena” domain, even though they describe processes characteristic to human beings. Obviously, though, since “nature” is such a broad term, the absence of this and other limits would make virtually every verb fit into this domain.

The semantic field of verbs expressing natural phenomena may contain lexemes whose semantic properties might suggest their belonging to an entirely different domain; the English word *thunder*, prototypically a verb of sound, is a good example here. On the other hand, some verbs from different semantic fields might be regarded related to the “natural phenomena” domain, but are not treated here as its members; this concerns such lexemes

as (Polish) *wyc* (howl, of the wind) or *blekitniec* (turn blue, of the sky). The deciding factor here is the fact of collocating (or not collocating) with natural phenomena. It is so natural to associate *thunder* with weather that no list of verbs expressing natural phenomena (weather being certainly one of them) would be complete without it. *Wyc* and *blekitniec*, in turn, are rather loosely connected with the domain in question; certainly "collocation" is not the right word to describe this relationship. They are examples of what I call "secondary feature verbs", expressing the "less obvious" features of a process, making its description more detailed. *Howl* just adds the sound element to *blow*; we say that the sky turns blue when we wish to comment on the process of its clearing in a more precise way. These and other secondary feature verbs entail corresponding "primary feature verbs", to be consistent in the nomenclature; in other words, if the wind is howling, then it must be blowing, if the sky is turning blue, it must be clearing, and so on. For the sake of space saving and coherence, secondary feature verbs are not analysed here.

However precise I tried to be in determining the criteria for the general selection of "natural phenomena" verbs, I was not able, obviously, to make them entirely satisfactory for any serious lexicographic work. Anyone trying to apply these criteria when compiling a thesaurus might, or even will, come across controversial cases. I can only think of one solution here: after you have used all the "dead" tools available (mono- and bilingual dictionaries, thesauruses, lexicons of synonyms, antonyms, and so on and so forth), the penultimate step of the selection procedure is consulting native speakers of the given language (there has to be a substantial number of them, and they should be as different from each other in all respects as possible, so that you could have a wide range of information), and the last step is making final decisions yourself. Native speakers play a crucial role in analyses like this one; they are the ultimate authority lexicographers apply to in order to decide on the most controversial cases. Let me just mention one example: the verb *simmer* seemed, on the one hand, to belong to the domain analysed here, and, on the other hand, to describe a man-controlled process. Native speakers of English, asked whether or not to include this verb into the domain, remarked that simmering may take place by itself, without human intervention, and the fact that this intervention frequently occurs should be mentioned, but should not exclude the verb from the analysis. Thus *simmer* is present in the taxonomy, and the human intervention element is referred to in the CONCEPTUAL EXTENSION section (cf. page 113).

2. THE CLASSIFICATION

The following is a possible arrangement of verbs expressing natural phenomena. Lexemes belonging to the ultimate constituents are listed afterwards. Whenever a word has more than one sense (I am, of course, referring to polysemy), the senses are numbered (e.g. *freeze 1*, *freeze 2*) and put into appropriate groups. If a word has but one sense, and it seems to fit more than one group, then native speakers are asked to determine where it should be put. For example, *melt* usually involves high temperature, but only as a secondary factor without which in some cases the process of melting may take place as well; therefore the verb is in the "change state" group, not in the "temperature" group. *Freeze*, in turn, has a change of state as the effect (liquid to solid), but low temperature is essential for this change, so the verb hardly suits any other group than that of "temperature" verbs. The domain in question is peculiar in the sense that some lexemes there do not fit any group at all, forming one-member classes (e.g. *gravitate*). Arguing that this is a feature of the domain, not a fault of the classification, I wish to remark, without apoioy, that these lexemes are deliberately excluded from the analysis.

VERBS EXPRESSING NATURAL PHENOMENA

VERBS EXPRESSING GEOGRAPHICAL PHENOMENA:

weather verbs:

- (verbs referring to) temperature of the air,
- sun,
- precipitation,
- wind,
- atmospheric phenomena,
- cloudiness, visibility and brightness.

VERBS EXPRESSING PHYSICAL PHENOMENA:

temperature and its effects:

- (verbs referring to) low or decreasing temperature,
- high or increasing temperature,
- burning.

*light,**change in state or shape:*

- (verbs referring to change in) state,
- shape.

VERBS EXPRESSING BIOLOGICAL PHENOMENA:

life:

- (verbs referring to) beginning or flourishing of life,
- end or decline of life.

spoiling.

One potential critical remark I foresee here is that the taxonomy is not clear and precise. It seems quite odd, for example, that verbs expressing biological phenomena should be divided into “*life*” verbs and “*spoiling*” verbs, and not anything else. It is the procedure of selecting the verbs that accounts for this obscurity. The initial steps of the selection involved skimming through a dictionary of English, jotting down words which seemed to fit the definition of natural phenomena verbs as suggested in Section 1, and adding new words (or removing inappropriate ones) by studying dictionary definitions, consulting native speakers, and so on. Only after the list had been completed were the verbs classified according to certain common properties. This shaped the final taxonomy. The fact that, to refer to the previous example, “biological” English verbs are apparently divisible only into “*life*” verbs and “*spoiling*” verbs seems quite interesting, but time and space limits of this article forbid dilating on it.

3. SEMANTIC ANALYSIS – THEORY

Before English verbs expressing natural phenomena are listed and described, let me briefly comment on those elements of a possible semantic analysis of a verb which are relevant to the domain presented here. The pattern is similar to that used in analysing verbs for the purposes of BiT (Bilingual Thesaurus, an on-line dictionary and thesaurus for speakers of English and Polish currently developed at the Institute of English Studies in Łódź; for details, see e.g. Lewandowska-Tomaszczyk 1993), but alterations have been made. The following notions will be used in describing the lexemes:

THEME – this refers to the participant(s) of the act described by the verb. **THEME** is, in accordance with our definition of natural phenomena, necessarily [+inanimate].

source – this is the necessary “cause” of the action (e.g. “cold” in *shiver*).

location – the adverbial phrase determining the place of the action.

presupposition – e.g. “being closed” for *open*.

conditions – e.g. “pathological” for *calcify*.

manner – this element is connected with one of the sense relations, namely troponymy; in brief, it simply answers the question “how” or “in what way” something is done.

time – this element tells us “when” the action takes place; navigate is related to sail by means of time, because navigation necessarily takes place during sailing, not e.g. typing (cf. the phenomenon of entailment mentioned before).

cause – here used primarily to show the “result” of the action.

circumstantials – these are typical, but not necessary features of the action; coming back to an example used before, “heat” might be placed among circumstantials for *melt*.

speaker’s evaluation – native speakers may assess a verb as negative (e.g. *spoil*), neutral (e.g. *gel*), or positive (e.g. *shine*, of the sun)

CONCEPTUAL EXTENSIONS – this element lists sememes that are not prototypically “natural phenomena” verbs (e.g. describe changes caused by human intervention), but cannot be totally missed out because of close relationship to the subject. They are labelled HEADWORD’, HEADWORD”, etc.

4. SEMANTIC ANALYSIS – APPLICATION

In previous sections of the article we have determined how to select, classify and describe verbs expressing natural phenomena. Now the time is ripe for exemplification. This part of the paper specifies which verbs from the English lexicon meet the criteria enumerated above and therefore have been selected as verbs expressing natural phenomena, which verbs from the whole domain are placed in which (sub)group, and how to describe the semantic properties of each verb with the help of the conceptual analysis system presented before.

Verbs referring to the temperature of the air:

- COOL* (1) – THEME: air
 – cause: result: low(er) air temperature
 – speaker’s evaluation: varying?
- FREEZE* (1) – THEME: expletive *it* referring to general situation
 – presupposition: air temperature above 0 deg. C
 – cause: result: air temperature below 0 deg. C
 – circumstantials: snow, iced street water
 – speaker’s evaluation: varying?
- THAW* (1) – THEME: expletive *it* referring to general situation

- presupposition: air temperature below 0 deg. C
- cause: result: air temperature above 0 deg. C; snow and ice melting
- speaker's evaluation: negative

Verbs connected with the sun:

- BEAM*
- THEME: sun
 - manner: intensely
 - cause: result: (very) high air temperature; lightness
 - speaker's evaluation: positive
 - CONC. EXT.: BEAM' – smile so cheerfully that one resembles the shining sun
- BEAT DOWN*
- THEME: sun
 - manner: very intensely
 - cause: result: very high air temperature
 - speaker's evaluation: varying?
- CLIMB*
- THEME: sun
 - location: in the sky
 - presupposition: sun lower than the zenith
 - manner: slowly
 - time: when rising
 - cause: result: sun higher in the sky
 - speaker's evaluation: neutral
- ECLIPSE*
- THEME: sun
 - source: the moon remaining between the sun and the Earth
 - location: in the sky
 - conditions: specific, astronomical
 - cause: result: complete darkness
 - speaker's evaluation: negative
 - CONC. EXT.: ECLIPSE' – (of people) outshine, make sb. appear dull by comparison
- RISE*
- THEME: sun
 - location: in the sky; in the east
 - presupposition: sun below the horizon
 - manner: slowly
 - cause: result: sun above the horizon; day starts
 - speaker's evaluation: neutral/positive
- SET*
- THEME: sun
 - location: in the sky; in the west
 - presupposition: sun above the horizon
 - manner: slowly

- cause: result: sun below the horizon; night starts
- speaker's evaluation: neutral/negative
- SHINE (1)** - THEME: sun
- cause: result: lightness
- speaker's evaluation: positive

Verbs referring to precipitation:

- COME DOWN** - THEME: rain, snow, etc.
- location: from the sky down to the ground
- conditions: specific, atmospherical
- speaker's evaluation: varying/negative?
- DRIP** - THEME: rain
- location: from above (e.g. the sky) down to the ground
- conditions: specific, atmospherical
- manner: lightly, irregularly
- speaker's evaluation: negative
- DRIZZLE** - THEME: expletive *it* referring to rain
- location: from the sky down to the ground
- conditions: specific, atmospherical
- manner: in fine drops
- circumstantials: drops usu. very numerous
- speaker's evaluation: negative
- FALL** - THEME: rain, snow, etc.
- location: from the sky down to the ground
- conditions: specific, atmospherical
- speaker's evaluation: varying/negative?
- HAIL** - THEME: expletive *it* referring to hail, frozen rain
- location: from the sky down to the ground
- conditions: specific, atmospherical
- manner: in a shower
- speaker's evaluation: negative
- LASH** - THEME: rain
- location: from the sky down to (sth. close to) the ground
- conditions: specific, atmospherical
- manner: with great force, as if with a whip
- speaker's evaluation: negative
- CONC. EXT.: LASH' - strike with or as if with a whip
- MIZZLE** - THEME: expletive *it* referring to rain
- location: from the sky down to the ground
- conditions: specific, atmospherical
- manner: in fine, mistlike droplets
- speaker's evaluation: negative

- PELT**
- THEME: rain, snow, etc.; expletive *it* referring to rain, snow, etc.
 - location: from the sky down to the ground
 - conditions: specific, atmospherical
 - manner: very heavily
 - speaker's evaluation: negative
- POUR**
- THEME: rain; expletive *it* referring to rain
 - location: from the sky down to the ground
 - conditions: specific, atmospherical
 - manner: heavily
 - speaker's evaluation: negative
 - CONC. EXT.: POUR' - (of liquid) flow
- PRECIPITATE**
- THEME: clouds
 - source: condensation
 - location: in the sky
 - cause: result: rain, snow, etc.
 - speaker's evaluation: varying?
- RAIN**
- THEME: expletive *it* referring to rain
 - location: from the sky down to the ground
 - conditions: specific, atmospherical
 - speaker's evaluation: negative
 - CONC. EXT.: RAIN' - (fig.) fall like rain on sth.
- SHOWER**
- THEME: rain, snow, etc.
 - location: from the sky down to the ground
 - conditions: specific, atmospherical
 - manner: briefly, but intensely
 - speaker's evaluation: varying?/negative
 - CONC. EXT.: SHOWER' - (of small objects, stones, etc.) fall in a shower
- SLEET**
- THEME: expletive *it* referring to snow or hail mixed with rain
 - location: from the sky down to the ground
 - conditions: specific, atmospherical
 - speaker's evaluation: negative
- SNOW**
- THEME: expletive *it* referring to snow, frozen vapour
 - location: from the sky down to the ground
 - conditions: specific, atmospherical
 - speaker's evaluation: varying?/positive
- SPATTER**
- THEME: (usu.) rain
 - location: from the sky down to (something close to) the ground
 - conditions: specific, atmospherical

- manner: in numerous drops
 - speaker's evaluation: neutral/negative
 - CONC. EXT.: SPATTER' - (of bullets, any small objects) fall
- SPIT**
- THEME: expletive *it* referring to rain
 - location: from the sky down to the ground
 - conditions: specific, atmospherical
 - manner: lightly
 - speaker's evaluation: neutral/negative
 - CONC. EXT.: SPIT' - send saliva from the mouth
- (*SPOT* - cf. *SPIT*, excl. CONC. EXT.; informal)
- STORM (1)**
- THEME: expletive *it* referring to rain, snow, etc.
 - location: from the sky down to the ground
 - conditions: specific, atmospherical
 - manner: very intensely
 - circumstantials: possible casualties
 - speaker's evaluation: negative
- TEEM**
- THEME: rain/expletive *it* referring to rain
 - location: from the sky down to the ground
 - conditions: specific, atmospherical
 - manner: intensely
 - speaker's evaluation: negative

Verbs referring to wind:

- BLOW**
- THEME: wind, moving air/expletive *it* referring to wind
 - source: changing air pressure
 - circumstantials: illusion of lower air temperature
 - speaker's evaluation: varying?
 - CONC. EXT.: BLOW' - (of people) send air from the mouth
- BLUSTER**
- THEME: wind
 - source: changing air pressure
 - manner: fiercely
 - circumstantials: illusion of radically lower air temperature
 - speaker's evaluation: negative
- GUST**
- THEME: wind
 - source: changing air pressure
 - manner: suddenly and violently
 - circumstantials: illusion of radically lower air temperature
 - speaker's evaluation: negative
- STORM (2)**
- THEME: expletive *it* referring to wind
 - source: changing air pressure

- manner: forcefully
- circumstantials: illusion of radically lower air temperature; possible casualties
- speaker's evaluation: negative

Verbs referring to atmospheric phenomena:

- LIGHTEN (1)**
- THEME: expletive *it* referring to flashes of lightning
 - source: natural electricity
 - location: between clouds/from clouds to the ground
 - manner: briefly, spectacularly
 - time: during storm; just before thunder
 - speaker's evaluation: varying?/negative
 - CONC. EXT.: LIGHTEN (1)' – make or become brighter
- THUNDER**
- THEME: expletive *it* referring to thunder, loud noise
 - manner: loudly; briefly
 - time: during storm; just after lightning
 - speaker's evaluation: negative
 - CONC. EXT.: THUNDER' – sound loudly

Verbs referring to cloudiness, visibility and brightness:

- BRIGHTEN**
- THEME: sky, weather, etc.
 - source: lower cloudiness
 - presupposition: cloudiness
 - cause: result: higher visibility and lightness
 - speaker's evaluation: positive
 - CONC. EXT.: BRIGHTEN' – cause to become bright(er)
BRIGHTEN'' – (cause to) become happy(ier)
- CLEAR**
- THEME: sky, weather, etc. (expletive *it*)
 - presupposition: cloudiness
 - cause: result: no clouds nor rain
 - speaker's evaluation: positive
 - CONC. EXT.: CLEAR' – become transparent
- CLEAR UP**
- THEME: expletive *it* referring to general situation
 - presupposition: cloudiness
 - cause: result: fine weather
 - speaker's evaluation: positive
- CLOUD OVER**
- THEME: sky
 - presupposition: no clouds
 - cause: result: cloudiness
 - circumstantials: darkness
 - speaker's evaluation: negative

- DARKEN** – THEME: sky
 – cause: result: darkness
 – circumstantials: usu. caused by storm
 – speaker's evaluation: negative
 – CONC. EXT.: DARKEN' – become dark
- DAWN** – THEME: expletive *it* referring to general situation/day
 – presupposition: darkness; night
 – manner: slowly
 – time: just after sunrise
 – cause: result: lightness
 – speaker's evaluation: positive?
- DUSK** – THEME: expletive *it* referring to general situation/day
 – presupposition: lightness; day
 – manner: slowly
 – time: after sunset
 – cause: result: darkness
 – speaker's evaluation: negative?
- LIGHTEN (2)** – THEME: expletive *it* referring to general situation
 – cause: result: better visibility
 – speaker's evaluation: positive
 – CONC. EXT.: LIGHTEN (2)' – cf. LIGHTEN (1)'
- LOUR (LOWER)** – THEME: sky, clouds
 – cause: result: darkness
 – circumstantials: usu. threatening a storm
 – speaker's evaluation: negative
- OVERCLOUD** – cf. CLOUD OVER
- Verbs connected with low or decreasing temperature:
- CHILL** – presupposition: being hot/warm/tepid
 – cause: result: low(er) temperature
 – speaker's evaluation: neutral
 – CONC. EXT.: CHILL' – make cool/cold
- COOL (2)** – presupposition: being hot/warm/tepid
 – cause: result: low temperature
 – circumstantials: sometimes presup.: being cold, result: being yet colder
 – CONC. EXT.: COOL (2)' – make cold(er)
- FREEZE (2)** – presupposition: temp. above 0 deg. C
 – cause: result: change from liquid to solid; temp. below 0 deg. C
 – speaker's evaluation: neutral
- ICE** – presupposition: temp. above 0 deg. C

- cause: result: change from liquid to solid; temp. below 0 deg. C
- circumstantials: almost always concerning water, not any other liquid
- speaker's evaluation: neutral
- CONC. EXT.: ICE' - make very cold

Verbs connected with high or increasing temperature:

BOIL

- THEME: liquid, water
- source: fire
- location: in container (kettle, pot)
- time: during intense heating
- cause: result: liquid's temperature app. 100 deg. C; vapour
- circumstantials: steaming, bubbling
- speaker's evaluation: neutral
- CONC. EXT.: BOIL' - cause to change to vapour; (fig.) THEME': container or objects floating in liquid (potatoes, etc.)

DEFROST

- THEME: food
- source: air temperature
- presupposition: being frozen
- manner: slowly
- cause: result: being no longer frozen; softening
- speaker's evaluation: positive?
- CONC. EXT.: DEFROST' - cause to become unfrozen
DEFROST'' - remove ice or frost from sth.

DRY

- source: air temperature; heat
- presupposition: being wet
- manner: slowly
- cause: result: losing moisture thus becoming warmer
- speaker's evaluation: positive?
- CONC. EXT.: DRY' - make dry

HEAT

- source: heat, hotness
- cause: result: becoming hot or warm
- speaker's evaluation: positive?
- CONC. EXT.: HEAT' - make hot or warm

PARCH

- source: high temperature
- cause: result: losing almost all moisture thus becoming warmer and very dry
- circumstantials: broken surface
- speaker's evaluation: negative

- SIMMER**
- CONC. EXT.: PARCH' – make very dry
 - THEME: liquid, water
 - source: fire
 - location: in container (kettle, pot)
 - time: during intense heating
 - cause: result: liquid remaining almost at boiling point (close to 100 deg. C)
 - speaker's evaluation: neutral
 - CONC. EXT.: SIMMER' – cause to remain almost at boiling point
 - SIMMER'' – be filled with uncontrollable emotion
- THAW (2)**
- THEME: food, other substances
 - source: air temperature
 - presupposition: being frozen
 - manner: slowly
 - cause: result: passing into liquid or unfrozen state
 - speaker's evaluation: neutral?
 - CONC. EXT.: THAW (2)' – cause to pass into unfrozen state
- WARM**
- source: air temperature, fire, heat
 - cause: result: high(er) temperature
 - speaker's evaluation: positive
- UNFREEZE**
- cf. DEFROST, except DEFROST''
- Verbs connected with burning:
- BELCH**
- THEME: a burning object
 - source: fire
 - time: during burning
 - cause: result: sending out smoke
 - speaker's evaluation: neutral
- BLAZE (1)**
- THEME: fire, flammable objects
 - source: ignition
 - conditions: dryness
 - manner: brightly, fiercely
 - cause: result: fuel or burning object damaged or destroyed
 - circumstantials: smoke, intense light
 - speaker's evaluation: varying
- BURN**
- THEME, source, conditions, cause as in BLAZE (1)
 - circumstantials: smoke, light
 - speaker's evaluation: varying?/negative
 - CONC. EXT.: BURN' – deliberately destroy by burning

- BURN'' – make a mark by burning
 BURN''' – use as fuel
 BURN'''' – be killed by fire
 BURN''''' – be able to catch fire
- CHAR**
- THEME: flammable objects
 - source, conditions as in *BLAZE* (1)
 - cause: result: THEME black
 - speaker's evaluation: negative?
 - CONC. EXT.: CHAR' – reduce to charcoal by burning
- FLAME**
- THEME, source, conditions, cause as in *BLAZE* (1)
 - manner: with a brighter flame
 - circumstantials: smoke, light
 - speaker's evaluation: varying?/positive
- FLARE**
- THEME, source, conditions, cause as in *BLAZE* (1)
 - manner: brightly, briefly, unsteadily
 - circumstantials: dim light; smoke
 - speaker's evaluation: neutral
 - CONC. EXT.: FLARE' – burst into anger
- REEK**
- THEME: a burning object, fire, chimney
 - source: fire
 - time: during burning
 - cause: result: sending out thick smoke
 - speaker's evaluation: negative?
- SMOKE**
- THEME: a burning object
 - source: fire
 - time: during burning
 - cause: result: sending out smoke or other visible vapour
 - speaker's evaluation: neutral
 - CONC. EXT.: SMOKE' – draw in smoke from e.g. cigarettes
- SMOULDER**
- THEME: flammable objects
 - source, conditions, cause as in *BLAZE* (1)
 - manner: slowly, without flame
 - circumstantials: THEME usually incapable of burning fiercely with flame (e.g. cigarettes)
 - speaker's evaluation: neutral
 - CONC. EXT.: SMOULDER' – (of emotions) be hidden and not expressed

Verbs connected with the light:

- BLAZE** (2)
- THEME: light, sun, etc.
 - source: natural or artificial radiation

- manner: brightly
 - cause: result: lightness
 - circumstantials: heat
 - speaker's evaluation: varying?
- FLASH*
- THEME: light, lightning, lighthouse, etc.; also anything reflecting light (e.g. eyes)
 - source, cause as in *BLAZE* (2)
 - manner: briefly, suddenly
 - speaker's evaluation: neutral
 - CONC. EXT.: *FLASH'* – cause to shine brightly
FLASH'' – communicate with a light
FLASH''' – send or reflect sth. like a flash
- FLICKER*
- THEME: light
 - source: natural radiation
 - manner: unsteadily, going on and off
 - cause: temporary lightness
 - speaker's evaluation: neutral
- FLUORESCENCE*
- THEME: fluorescent substances; ones that have specific properties making the process possible
 - source: light, radiation
 - cause: result: emitting light that is a reflection of (source)
 - speaker's evaluation: neutral
- GLARE*
- THEME: light, sun, etc.
 - source: natural or artificial radiation
 - manner: very intensely
 - cause: result: intense light
 - circumstantials: dazzling
 - speaker's evaluation: negative
 - CONC. EXT.: *GLARE'* – stare angrily
- GLEAM*
- THEME: anything reflecting light (e.g. eyes)
 - source, cause as in *BLAZE* (2)
 - manner: softly, brightly
 - speaker's evaluation: positive
 - CONC. EXT.: *GLEAM'* – (of face or eyes) show emotions
- GLIMMER*
- THEME: light
 - source, cause as in *BLAZE* (2)
 - manner: faintly, unsteadily
 - speaker's evaluation: neutral
- GLINT*
- THEME: anything reflecting light (e.g. diamonds)
 - source, cause as in *BLAZE* (2)
 - manner: in small, bright flashes

- speaker's evaluation: neutral
- CONC. EXT.: GLINT' – (of eyes) sparkle and show emotions
- GLISTEN**
 - THEME: esp. wet, oily or polished surfaces
 - source, cause as in *BLAZE* (2)
 - manner: brightly
- GLITTER**
 - speaker's evaluation: neutral/positive
 - THEME: ?sun, stars, anything reflecting light
 - source, cause as in *BLAZE* (2)
 - manner: brightly, with little, sharp flashes
- SHIMMER**
 - speaker's evaluation: neutral/positive?
 - THEME: anything reflecting light; moonlight, etc.
 - source, cause as in *BLAZE* (2)
 - manner: softly
 - circumstantials: light seems to waver
- SHINE** (2)
 - speaker's evaluation: neutral
 - THEME: anything reflecting light
 - source, cause as in *BLAZE* (2)
 - speaker's evaluation: neutral
 - CONC. EXT.: SHINE (2)' – aim light in a specified direction
- SPARKLE**
 - here cf. *GLITTER*

Verbs connected with changing shape:

- BUCKLE**
 - THEME: sth. strong, hard, usu. made of metal
 - source: pressure, heat
 - cause: result: THEME bends in middle
 - speaker's evaluation: neutral
 - CONC. EXT.: BUCKLE' – cause to bend
- BEND**
 - THEME: anything straight
 - source: pressure, heat
 - cause: result: THEME becomes crooked, curved, angular
 - speaker's evaluation: neutral
 - CONC. EXT.: BEND' – force sth. into an angle
- CONTORT**
 - THEME: body parts, branches, etc.
 - presupposition: having natural, normal shape
 - conditions: pathological, abnormal
 - cause: result: loss of natural shape
 - speaker's evaluation: negative
- CONTRACT**
 - THEME: e.g. metal
 - cause: result: THEME becomes shorter or smaller
 - circumstantials: usu. because of heat

- speaker's evaluation: neutral
 – CONC. EXT.: CONTRACT' – cause to become smaller
- GNARL*
 – THEME: trees, branches, etc.
 – presupposition, conditions as in *CONTORT*
 – cause: result: become rough, covered with knobs
- speaker's evaluation: negative
- SHRIVEL*
 – THEME: leaves, materials like leather, etc.
 – source: heat, cold or dryness
 – cause: result: THEME becomes smaller and wrinkled
 – speaker's evaluation: negative
 – CONC. EXT.: SHRIVEL' – cause to become smaller...
- SHRINK*
 – THEME: products of nature; cloth, etc.
 – cause: result: THEME becomes smaller
 – circumstantials: usu. because of moisture, heat or cold
 – speaker's evaluation: negative
 – CONC. EXT.: SHRINK' – cause to become smaller
- SWELL*
 – THEME: wood, body parts
 – source: pressure (from inside)
 – cause: result: THEME becomes larger
 – circumstantials: if THEME is a body part, then conditions are pathological; usu. result: pain
 – speaker's evaluation: negative
- TWIST*
 – THEME: e.g. metal, body parts, etc.
 – source: pressure
 – cause: result: loss of natural shape
 – speaker's evaluation: negative
 – CONC. EXT.: TWIST' – cause to become out of shape
- WARP*
 – THEME: wood or similar material (e.g. paper)
 – source: uneven shrinkage, expansion, moisture
 – cause: result: loss of usual or natural shape
 – circumstantials: usu. result: THEME can no longer be used for its prototypical purpose
 – speaker's evaluation: negative
 – CONC. EXT.: WARP' – cause to change shape
 WARP'' – (cause to) become biased or perverted (fig.)

NOTE: numerous lexemes which might belong to this subgroup (e.g. *deform, distort, dwindle, misshape*) have been excluded because they are almost exclusively used as transitive verbs with man as agent (cause sth. to change shape) or are no longer used as verbs at all, being just the basis for forming corresponding adjectives (e.g. *misshapen*)

Verbs involving a change in state:

- CAKE*
- THEME 1: thick liquid or semi-solid*
 - THEME 2: hard, dry mass, lump**
 - speaker's evaluation: neutral
 - CONC. EXT.: *CAKE'* – cover sth. thickly (of e.g. mud)
- CALCIFY*
- THEME 1: body parts (tissue, veins)
 - THEME 2: hard, stony substance
 - source: calcium or lime salts
 - location: human or animal body
 - conditions: pathological
 - speaker's evaluation: negative/neutral
 - CONC. EXT.: *CALCIFY'* – cause to stiffen
- CLOT*
- THEME 1: thick liquid (blood, cream)
 - THEME 2: clot, lump
 - source: chemical or physical reaction
 - conditions: presence of oxygen
 - speaker's evaluation: neutral
 - CONC. EXT.: *CLOT'* – cause to form clots
- COAGULATE*
- THEME 1: thick liquid (blood, paint)
 - THEME 2: thick soft semi-solid mass
 - source, conditions as in *CLOT*
 - speaker's evaluation: neutral
 - CONC. EXT.: *COAGULATE'* – cause to coagulate
- CONDENSE 1*
- THEME 1: liquid
 - THEME 2: thick liquid
 - manner: slowly
 - circumstantials: usu. during heating
 - speaker's evaluation: neutral
 - CONC. EXT.: *CONDENSE 1'* – cause to become thick
- CONDENSE 2*
- THEME 1: gas, steam
 - THEME 2: liquid, usu. water
 - circumstantials: usu. because of cooling
 - speaker's evaluation: neutral
 - CONC. EXT.: *CONDENSE 2'* – cause to become liquid
- CONGEAL*
- THEME 1: liquid (blood, fat, soup)
 - THEME 2: very thick semi-solid substance
 - circumstantials: usu. because of cooling; reversible when temperature rises again

* – object.

** – product. The introduction of two THEMES stretches somehow the definition of this notion given before; however, it is deliberate, as in the case of this particular subgroup it facilitates analysing the semantic properties of the lexemes.

- speaker's evaluation: neutral
- CONC. EXT.: CONGEAL' - cause to become thick
- CONSOLIDATE* - THEME 1: thick liquid (mud)
- THEME 2: solid
- speaker's evaluation: neutral
- CONC. EXT.: CONSOLIDATE' - cause to consolidate
- CONSOLIDATE'' - (of e.g. company) become more solid or stronger
- CRYSTALLIZE* - THEME 1: liquid
- THEME 2: solid
- manner: by forming crystals
- speaker's evaluation: neutral
- CONC. EXT.: CRYSTALLIZE' - cause to form into crystals
- CRYSTALLIZE'' - (of ideas) become definite
- DELIQUESCE* - THEME 1: solid, usu. chemical substance like salts
- THEME 2: liquid
- source: moisture from air
- conditions: specific, chemical
- speaker's evaluation: neutral
- DISSOLVE* - THEME 1: solid (sugar, salt)
- THEME 2: solid mixed with liquid
- location: in liquid
- presupposition: solid being soluble
- circumstantials: usu. during heating or stirring
- speaker's evaluation: neutral
- CONC. EXT.: DISSOLVE' - cause to become liquid
- DISSOLVE'' - (of hopes) disappear
- ENCRUST* - THEME 1 : thick liquid, soft solid
- THEME 2: hard solid, crust
- speaker's evaluation: neutral
- CONC. EXT.: ENCRUST' - cover with a crust
- EVAPORATE* - THEME 1: liquid, usu. water
- THEME 2: vapour or gas
- circumstantials: usu. through heating
- speaker's evaluation: neutral
- CONC. EXT.: EVAPORATE' - cause to become vapour
- EVAPORATE'' - (of hopes) be lost
- FOSSILIZE* - THEME 1: solid (animal or plant remains)
- THEME 2: fossil, very hard solid
- conditions: specific, biological
- manner: slowly

- speaker's evaluation: neutral
- CONC. EXT.: FOSSILIZE' – cause to become fossil
- FOSSILIZE'' – (of attitudes) make or become out of date
- GEL*
 - THEME 1: liquid
 - THEME 2: gel, jelly
 - presupposition: liquid containing chemical component making process possible
 - manner: slowly
 - circumstantials: usu. during cooling
 - speaker's evaluation: neutral
 - CONC. EXT.: GEL' – (of ideas) take definite form
- GELATINATE*
 - THEME 1: liquid
 - THEME 2: gelatine, jelly
 - presupposition, manner as in *GEL*
 - circumstantials: usu. during heating
 - speaker's evaluation: neutral
 - CONC. EXT.: GELATINATE' – convert into or coat with THEME 2
- GELATINIZE*
 - cf. *GELATINATE*
- HARDEN*
 - THEME 1: (thick) liquid
 - THEME 2: solid
 - speaker's evaluation: neutral
 - CONC. EXT.: HARDEN' – cause to become hard
 - HARDEN'' – (of attitudes) make or become less sensitive
- INCRASSATE*
 - THEME 1: liquid (usu. chemical substance)
 - THEME 2: thick liquid
 - source: particular chemical reactions
 - conditions: specific, chemical
 - speaker's evaluation: neutral
- INDURATE*
 - THEME 1: thick liquid
 - THEME 2: solid
 - speaker's evaluation: neutral
- INSPISSATE*
 - cf. *INCRASSATE*
- JELL*
 - cf. *GEL*, exc. no circumstantials
- JELLIFY*
 - cf. *JELL*
- JELLY*
 - cf. *JELL*
- LIQUEFY 1*
 - THEME 1: solid
 - THEME 2: liquid
 - manner: rather slowly
 - circumstantials: usu. due to high temperature

- speaker's evaluation: neutral
 – CONC. EXT.: LIQUEFY 1' – cause to become liquid
- LIQUEFY 2*
 – THEME 1: gas
 – THEME 2: liquid
 – source: particular chemical reactions
 – conditions: specific, chemical
 – speaker's evaluation: neutral
 – CONC. EXT.: LIQUEFY 2' – cause to become liquid
- MELT 1*
 – THEME 1: solid
 – THEME 2: liquid
 – circumstantials: usu. during heating
 – speaker's evaluation: neutral
 – CONC. EXT.: MELT 1' – cause to become liquid
 MELT 1'' – (of feelings) soften
- MELT 2*
 – THEME 1: solid (sugar, salt)
 – THEME 2: solid mixed with liquid
 – location: in liquid
 – presupposition: solid being soluble
 – circumstantials: usu. during heating or stirring
 – speaker's evaluation: neutral
 – CONC. EXT.: MELT 2' – cause to become part of liquid
 MELT 2'' – (of food) become soft
- OSSIFY*
 – THEME 1: solid
 – THEME 2: bone
 – source: particular biological/chemical processes
 – conditions: specific, biological/chemical
 – manner: slowly
 – speaker's evaluation: negative/neutral
 – CONC. EXT.: OSSIFY' – (of beliefs) become rigid
- PETRIFY*
 – THEME 1: solid (specimens of fauna/flora)
 – THEME 2: stone (-like substance)
 – source, conditions, manner, speaker's evaluation as in *OSSIFY*
 – CONC. EXT.: PETRIFY' – become unable to move
- SET*
 – THEME 1: liquid (glue, cement, etc.)
 – THEME 2: hard solid
 – source: chemical/physical reactions
 – presupposition: liquid containing compounds making process possible
 – speaker's evaluation: neutral
- SOFTEN*
 – THEME 1: solid

- THEME 2: soft solid (rarely); thick liquid
- speaker's evaluation: neutral
- CONC. EXT.: SOFTEN' – cause to become soft
- SOLIDIFY**
- THEME 1: liquid
- THEME 2: solid
- speaker's evaluation: neutral
- CONC. EXT.: SOLIDIFY' – (of objections) become firm
- THICKEN**
- THEME 1: liquid
- THEME 2: thick liquid
- speaker's evaluation: neutral
- CONC. EXT.: THICKEN' – cause to become thick
- VAPORIZE**
- THEME 1: liquid
- THEME 2: vapour or gas
- circumstantials: usu. through heating
- speaker's evaluation: neutral
- VOLATILIZE**
- THEME 1: liquid
- THEME 2: vapour or gas
- circumstantials: THEME 2 often disappearing
- speaker's evaluation: neutral

Verbs connected with the beginning or flourishing of life:

- BLOOM**
- THEME: plants
- conditions: spring time
- cause: result: flowers
- speaker's evaluation: positive
- CONC. EXT.: BLOOM' – flourish
- BLOSSOM**
- cf. **BLOOM**
- BREED**
- THEME: animals
- source: impregnation
- cause: result: young animals
- speaker's evaluation; positive
- CONC. EXT.: BREED' – educate
- BUD**
- THEME: trees
- conditions: spring time
- cause: result: buds from which flowers develop
- speaker's evaluation: positive
- FLOWER**
- cf. **BLOOM**
- FRUIT**
- THEME: trees
- time: after e.g. budding
- cause: result: fruit
- speaker's evaluation: positive

- GROW*
- THEME: plants, trees
 - cause: result: maturity
 - speaker's evaluation: positive
- HATCH*
- THEME: young bird, fish
 - presupposition: being unborn
 - cause: result: emerging from an egg
 - speaker's evaluation: neutral/positive
 - CONC. EXT.: HATCH' - cause to hatch
- RIPEN*
- THEME: plants, fruit
 - cause: result: being ready for use
 - circumstantials: usu. due to sunshine
 - speaker's evaluation: positive
- SHOOT*
- THEME: plants, bushes
 - cause: result: new branches
 - speaker's evaluation: positive
- SPROUT*
- THEME: plants, bushes
 - cause: result: new branches, leaves, buds
 - speaker's evaluation: varying?
- VEGETATE*
- THEME: plants, rarely animals
 - cause: result: living, being not dead
 - speaker's evaluation: neutral
 - CONC. EXT.: VEGETATE' - live a dull life

Verbs connected with the end or decline of life:

- DIE*
- THEME: living organisms
 - source: factors terminating living
 - cause: result: death
 - speaker's evaluation: negative
- WITHER*
- THEME: plants
 - source: loss of substances essential for living, e.g. water
 - cause: result: death
 - circumstantials: dryness, shrivelling
 - speaker's evaluation: negative

Verbs connected with the process of spoiling:

- ADDLE*
- THEME: egg
 - conditions: pathological
 - cause: result: rotting
 - speaker's evaluation: negative
- CURDLE*
- THEME: milk
 - source: heat, air

- cause: result: curds, thickening
- speaker's evaluation: varying?
- CONC. EXT.: CURDLE' – cause to curdle
- DECAY*
 - THEME: living organisms or their parts
 - conditions: pathological
 - cause: result: rotting
 - speaker's evaluation: negative
- DECOMPOSE* – cf. *DÉCAY*
- PUTREFY* – cf. *DECAY*
- ROT*
 - THEME: living organisms or their parts
 - source: bacteria, fungi
 - conditions: natural
 - cause: result: decaying
 - speaker's evaluation: negative
 - CONC. EXT.: ROT' – cause to rot
- SPOIL*
 - THEME: food
 - source: bacteria, heat, air
 - cause: result: THEME no longer edible
 - speaker's evaluation: negative
 - CONC. EXT.: SPOIL' – make or become bad

5. CONCLUSIONS

Here I wish to remark that all the lexicographic data presented in this paper have been collected by me chiefly during numerous consultations with native speakers of English. I may have been misled by them here and there, but if this paper contains any inconsistencies or errors they remain entirely my fault.

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CZASOWNIKI OPISUJĄCE ZJAWISKA NATURALNE

Artykuł dotyczy pewnych szczególnych właściwości semantycznych charakteryzujących jednolitą grupę słów angielskich, określanych tu jako czasowniki opisujące zjawiska naturalne. Zawiera on ogólne kryteria wyboru tychże czasowników, jednocześnie definiując pojęcie zjawiska naturalnego, listę czasowników angielskich wybranych wg podanych kryteriów i uporządkowanych wg grup i podgrup, oraz analizę semantyczną każdego czasownika.